



Terranea Resort



GROUP DELTA

Statement of Qualifications



Anaheim Regional Transportation
Intermodal Center

City of Rancho Palos Verdes
Public Works Department
30940 Hawthorne Blvd.
Rancho Palos Verdes, CA 90275



Colton Crossing Grade
Separation

Contact: Tom Swantko, PE, GE
Email: TomS@GroupDelta.com
Phone: (310) 320-5100



I-5/Gene Autry Interchange

Irvine
32 Mauchly
Suite B
Irvine, CA 92618
(949) 450-2100

Torrance
370 Amapola Avenue
Suite 212
Torrance, CA 90501
(310) 320-5100

San Diego
9245 Activity Road
Suite 103
San Diego, CA 92126
(858) 536-1000

Ontario
1035 South Milliken Avenue
Suite G
Ontario, CA 91761
(909) 295-5550

Victorville
12180 Ridgcrest Road
Victorville, CA 92395
(760) 881-3225

Oakland
505 14th Street
Suite 900
Oakland, CA 94612
(510) 671-0010

Anaheim
1320 South Simpson Circle
Anaheim, CA 92806
(714) 660-7500

"Delta is the Difference"
Serving California Since 1986



GROUP DELTA

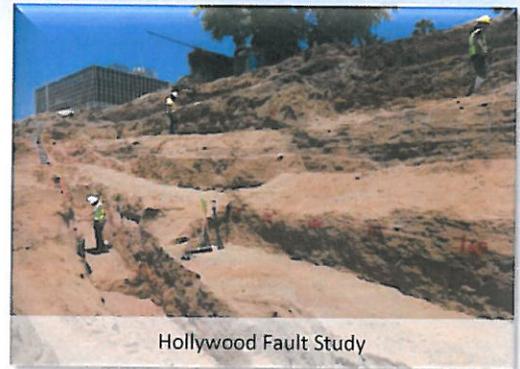
WHO WE ARE



Group Delta is a consulting geotechnical and environmental engineering firm with seven offices located in the counties of Orange, Los Angeles, San Bernardino, San Diego and Alameda. Our team consists of civil and geotechnical engineers, environmental engineers, engineering geologists, laboratory and field technicians, deputy inspectors, drafting/CADD technicians, and drilling and support personnel specialized in their respective fields. We offer a broad range of services to serve the needs of our clients.

GEOTECHNICAL ENGINEERING AND GEOLOGIC SERVICES

- Feasibility studies
- Third Party Reviews
- Foundation design
- Earth Retaining Structures Design
- Pavement Design
- Earthwork and Grading
- Earthquake and Fault Studies
- Geologic Hazard Evaluations
- Numerical Modeling Analyses
- Seismic Design & Hazard Assessments
- Hydrogeologic Evaluations
- Dewatering
- Ground Improvement Analysis & Design
- Laboratory Testing
- Slope Stability & Landslide Investigation & Mitigation
- Instrumentation and Ground Monitoring



- Pile Drivability & Load Tests
- Seismic Retrofitting Design
- Geologic Reconnaissance & Mapping
- Geophysical Investigations
- Trenching Investigations

ENVIRONMENTAL SERVICES



- Phase I Initial Site
- Assessments (ISAs) / Environmental Site Assessments (ESAs)
- Hazardous Materials Management & Industrial Hygiene
 - Surveys and Investigations
 - Technical Abatement Specifications and Work Plans
 - Abatement and Remediation Monitoring Services
- Phase II Site Investigations (SIs)
- Construction Environmental Compliance
- Phase III Site Remediation
- Stormwater



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FORENSIC SERVICES

- Earthquake Damage Assessments: Causation studies and preparation of repair recommendations.
- Landslide Investigations: Causation studies and/or development of stabilization schemes.
- Construction Vibrations: Vibration monitoring and geotechnical testing.
- Dam Investigations
- Settlement Analyses: Floor level surveys, causation studies and/or preparation of repair recommendations.
- Expansive Soils: Subsurface investigations, preparation of repair recommendations.
- Groundwater: Subsurface investigations, preparation of subsurface drainage recommendation.

TESTING AND INSPECTION SERVICES

Group Delta has two materials testing laboratories located in Anaheim and San Diego, California. Our laboratories are licensed as an approved testing facility by various agencies including the Division of the State Architect (DSA), City of Los Angeles, Caltrans, CCRL and AASHTO. In addition, Group Delta's San Diego laboratory has been awarded accreditation to the technical competence and quality assurance requirements of ISO/IEC 17025:2005 as determined by the Laboratory Accreditation Bureau (L-A-B).

Soils Testing

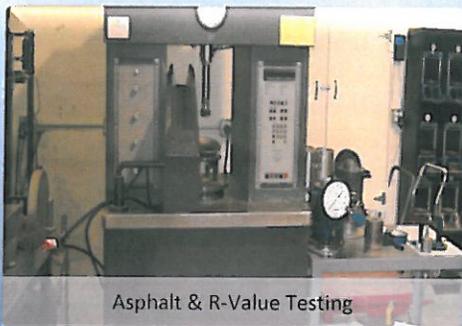
- Classification & Index
- Strength Tests
- Volumetric Change
- Permeability
- Compaction
- Aggregate/Subgrade



Direct Shear, Consolidation & Sand Equivalent Testing

Materials Testing

- Asphalt Testing
- Concrete Aggregate
- Concrete Cylinders
- Concrete Beams
- Masonry
- Masonry Unit Cubes
- Masonry Prisms
- Grout/Mortar
- Dry Pack Blocks
- Shotcrete
- Batch Plant Inspections
- Reinforcing Steel
- Structural Steel
- Chemical Physical Properties
- AWS/CWI Welding
- Post-Tensioning
- Epoxy Dowels/ Drilled in Anchors
- Pull Testing
- Non Destructive Testing – UT/MT
- High Strength Bolting
- Fireproofing Inspections and Sampling
- Concrete & Masonry Coring and Extraction
- Mix Design Reviews & Trial Batched
- Fiber Wrap Inspection
- Vapor Emissions Testing



Asphalt & R-Value Testing



GROUP DELTA

Group Delta meets all the requirements as an approved testing agency with the following local and national accrediting/certification authorities:

- ISO 17025 (San Diego Laboratory)
- AASHTO (American Association of State Highway and Transportation Officials)
- ACI (American Concrete Institute)
- AMRL (AASHTO Materials Reference Laboratory)
- ANSI (American National Standards Institute)
- APWA (American Public Works Association)
- ASNT (American Society of Nondestructive Testing)
- ASTM (American Society for Testing and Materials)
- AWS/CWI (American Welding Society/Certified Welding Inspector)
- California Department of Transportation (Caltrans)
- CCRL (Cement and Concrete Reference Laboratory)
 - City of Los Angeles



- DSA (Division of the State Architect)
- ICBO (International Conference of Building Officials)
- NICET (National Institute for Certification in Engineering Technologies)
- UBC (Uniform Building Code)

Inspection

Earthwork Inspection and Testing – Group Delta provides geotechnical observation and testing services for all stages of site grading. Our field compaction testing services are provided by experience soils technicians working under the supervision of licenses professional engineers.

Asphalt Inspection and Testing – Group Delta provides comprehensive asphalt testing and AC Mix Design Services.

Concrete Inspection and Testing – Group Delta’s concrete inspection and testing staff is re-certified bi-annually by the Cement and Concrete Reference Laboratory (CCRL) and annually by Caltrans. Our ACI certified concrete technicians perform field and batch plan sampling of concrete materials to assure compliance with project specifications.

Specialty Construction Inspection – Group Delta provides experience special inspectors license by the International Code Counsel (ICC) for Sprayed Applied Fireproofing, Structural Masonry, Structural Steel Bolting and Welding, Pre-Stressed Concrete, and Reinforced Concrete. Group Delta can also provide Certified Welding Inspectors (CWI) licensed by the American Welding Society (AWS) and non-destructive testing such as mag-particle and ultra-sonic testing.

Group Delta Technicians & Inspectors hold the following certifications:

ICC Inspection

- Masonry
- Structural Steel/Welding
- Concrete
- Fireproofing
- Pre-Stressed Concrete

Caltrans Certified

- Materials Testing
- Soils Testing
- Nuclear Gauge Safety
- ACI Certified Concrete
- Soils

City of LA Deputy Inspector



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PROJECT EXPERIENCE



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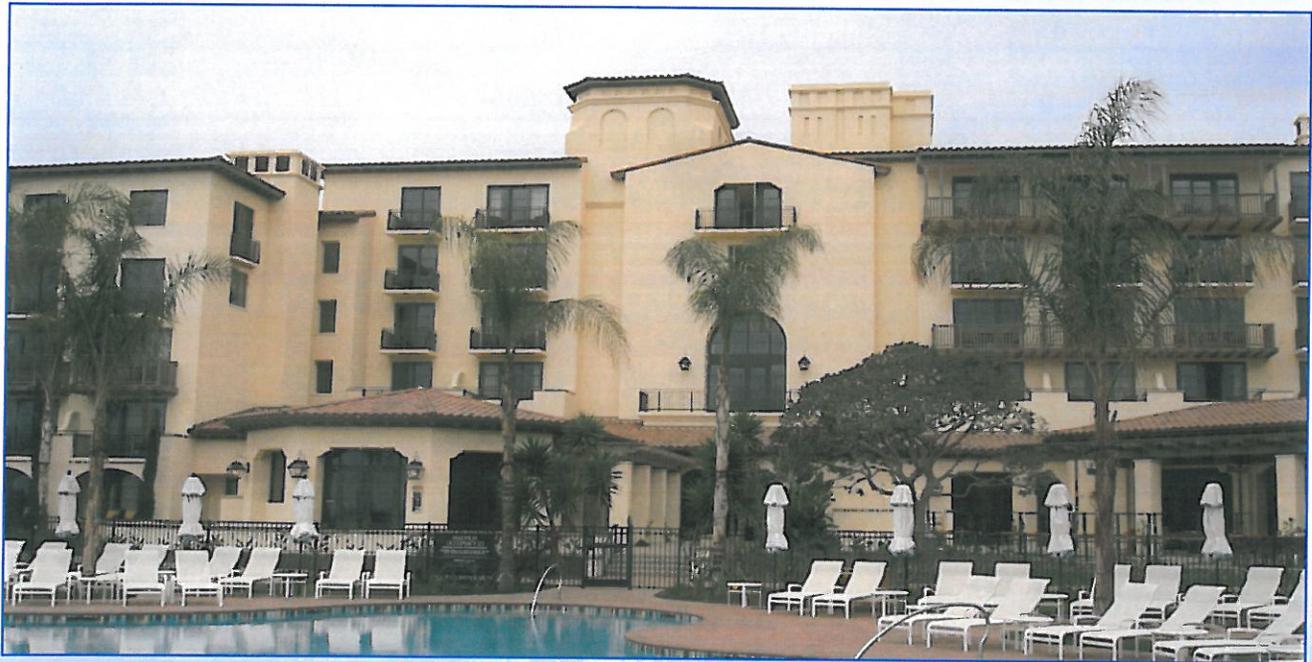
TERRANEA RESORT Rancho Palos Verdes, CA

Project Highlights

- Project is the largest construction of this type in the history of the city
- Sits on the cliffs overlooking the Pacific Ocean on 102 acres providing a spectacular view
- Hotel is 400,000 sf and includes 50 casitas, 32 villas and 20 bungalows
- Amenities include spa, three swimming pools, 1,075 parking spaces and 9-hole golf course

Group Delta Highlights

- Provided services to the City as the project Inspector of Record
- Provided subsurface investigations and reviewed safety requirements
- Conducted daily building inspections included electrical, plumbing, fire sprinklers, HVAC systems as well as overseeing all special inspections and materials sampling



Project Information

Client:	City of Rancho Palos Verdes
Owner:	Lowе Enterprises
Total Cost:	\$480 Million
Completed:	2010



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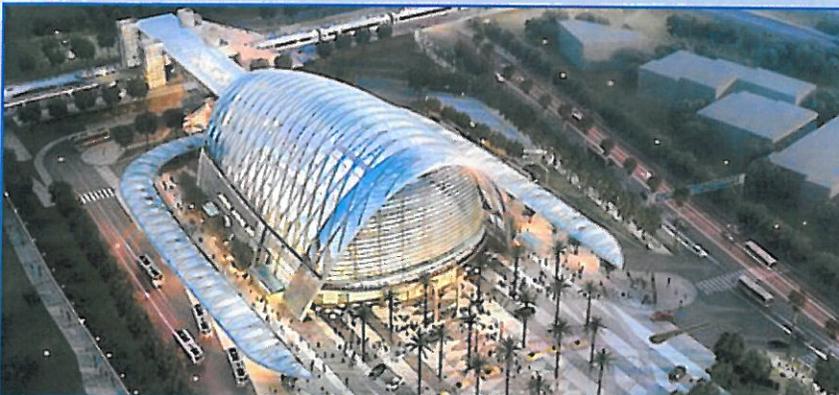
ANAHEIM REGIONAL TRANSPORTION INTERMODAL CENTER Anaheim, CA

Project Highlights

- New Architectural iconic terminal building, 117 ft. high with an approximate footprint of 48,000 sf
- 68,000 sf steel-framed tubular structure with Ethylene Tetrafluoroethylene (ETFE) and glass cladding as part of the terminal
- One of the largest welding projects in California

Group Delta Highlights

- Managed and responsible for all inspection and testing including coordination of welding non-destructive testing (NDT)
- Responsible for deep dynamic soil compaction, ETFE roof installation, and monolithic mat foundation inspections



Project Information

Client:	City of Anaheim
Owner:	Orange County Transportation Authority (OCTA)
Total Cost:	\$220 Million
Completed:	2014



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DESIGN-BUILD
\$1 BILLION

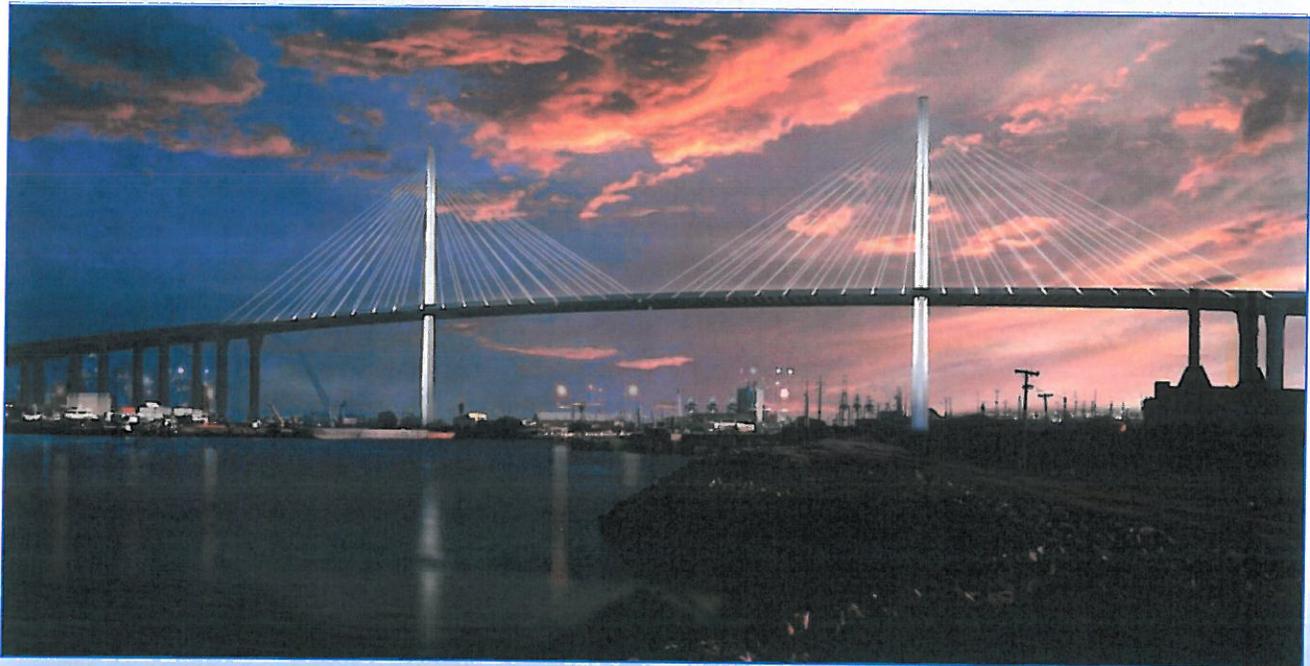
GERALD DESMOND BRIDGE REPLACEMENT Port of Long Beach, CA

Project Highlights

- Highest vertical clearance of all cable-stayed bridges in the United States (US)
- Gerald Desmond Bridge accounts for 15% of waterborne cargo movement in the US
- Higher clearance to accommodate the newest generation of efficient cargo ships
- 2nd tallest cable-stayed bridge design in the US

Group Delta Highlights

- Serving as Environmental Compliance Manager
- Groundwater contamination characterization, monitoring and modeling and hazardous materials surveys
- Stormwater Best Management Practice (BMP) inspections and impacted soil management



Project Information

Client:	Shimmick, FCC, Impregilo JV
Owner:	Port of Long Beach/ Caltrans
Total Cost:	\$1 Billion
Completed:	Ongoing



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MTA GOLD LINE ICONIC BRIDGE Arcadia, CA

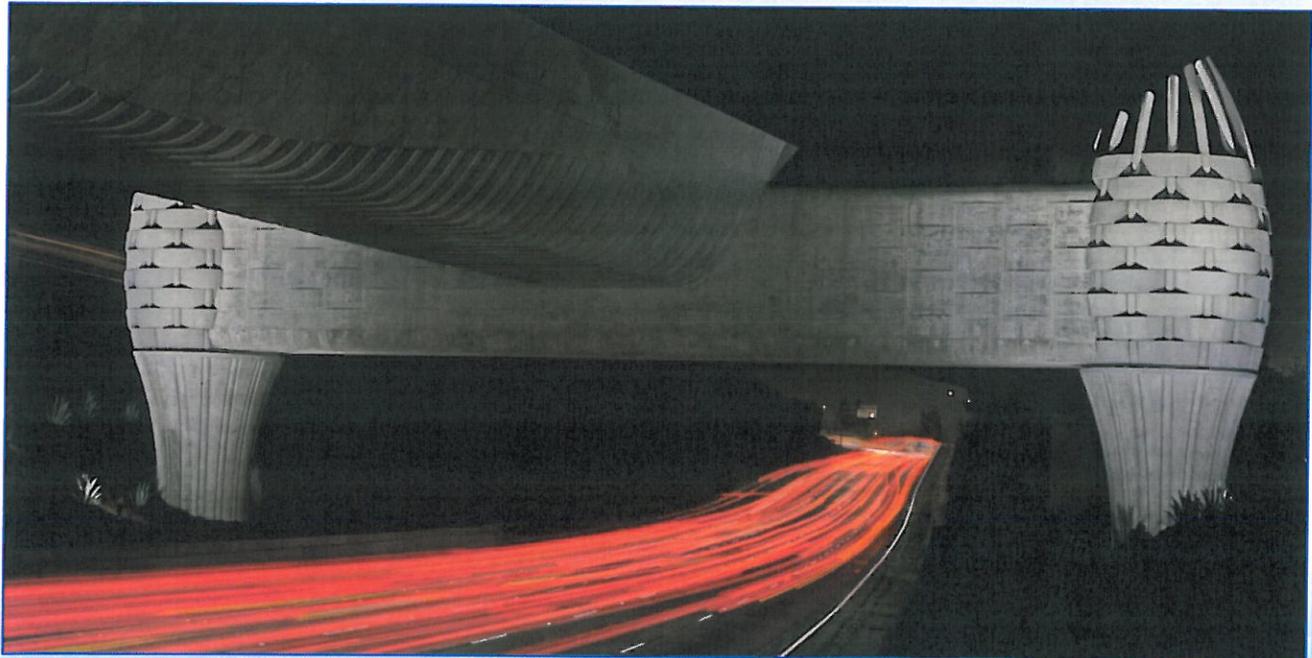
DESIGN-BUILD
\$20 Million

Project Highlights

- Received Engineering News Record (ENR) **Project of the Year Award** for this 11.5 mile extension of the Metro Gold Line
- **First** mass transit crossing in California to be designed by an artist
- **First** design-build project for Gold Line Authority

Group Delta Highlights

- Provided geotechnical seismic design for the Iconic Bridge
- Provided geotechnical engineering design recommendations and support during construction
- Provided foundation recommendations for large 10 ft. Cast In Drilled Hole (CIDH) piles



Project Information

Client: Skanska USA & AECOM Technical Services
Owner: Los Angeles MTA
Total Cost: \$20 Million
Completed: 2012



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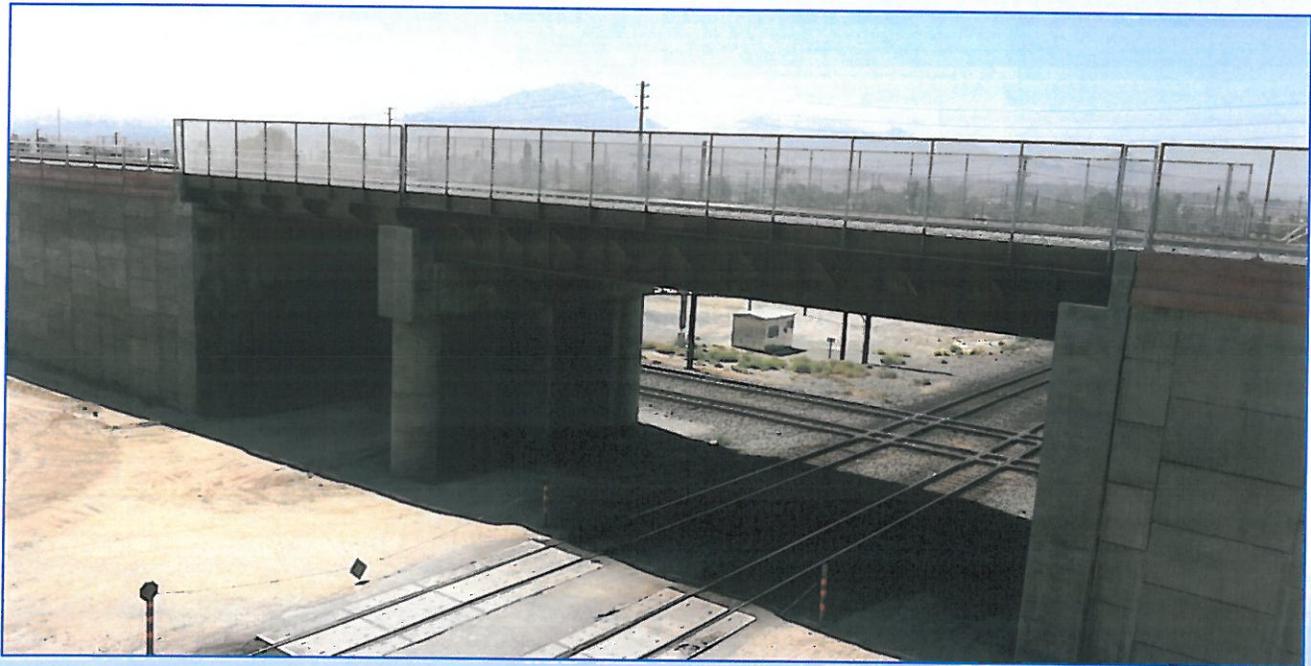
COLTON CROSSING GRADE SEPARATION Colton, CA

Project Highlights

- Project elevates east-west UPRR rail line over Burlington Northern/Santa Fe rail line
- Project is adjacent to the I-10 Freeway in San Bernardino County
- Ground improvements were made with vibro-replacement stone columns
- Loose soils were densified in the upper 20 feet of the site

Group Delta Highlights

- Provided independent quality assurance verification testing
- Reviewed acceptance testing and quality assurance verification testing
- Prepared data reduction and analysis and prepared final report
- Coordinated with AECOM, UPRR and BNSF personnel to review safety requirements



Project Information

Client:	AECOM
Owner:	City of Colton / U{RR
Total Cost:	\$331 Million
Completed:	2014



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GILMAN DRIVE TRANSIT CENTER San Diego, CA

Project Highlights

- Transit Center is located on the campus of University of California San Diego
- Transit Center includes two SuperLoop bus stations, two campus shuttle stations, bus turnouts for passenger loading, passenger waiting area, bike racks and dedicated bike lanes

Group Delta Highlights

- Provided all quality assurance materials testing for the construction management firm
- Services included earthwork observation and testing, certified ACI Concrete inspection, sampling and testing
- Provided laboratory testing of soils, concrete and aggregate materials



Project Information

Client: Caltrans
Owner: SANDBAG/MTS
Completed: 2014



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I-5/GENE AUTRY INTERCHANGE Anaheim, CA

Project Highlights

- Awarded 2014 Bridge Project of the Year by American Society of Civil Engineers
- New westerly access to I-5 High Occupancy Vehicle (HOV) lanes
- Project Stakeholders include City of Anaheim, OCTA and Caltrans District 12
- Project connects Disneyland Resort with Angel Stadium

Group Delta Highlights

- Provided quality assurance materials testing and inspection for construction management firm
- Inspection and testing was provided in strict accordance with Caltrans' right-of-way and Greenbook specifications for City of Anaheim right-of-way



Project Information

Client:	Hill International
Owner:	OCTA/Caltrans/ City of Anaheim
Total Cost:	\$45 Million
Completed:	2013



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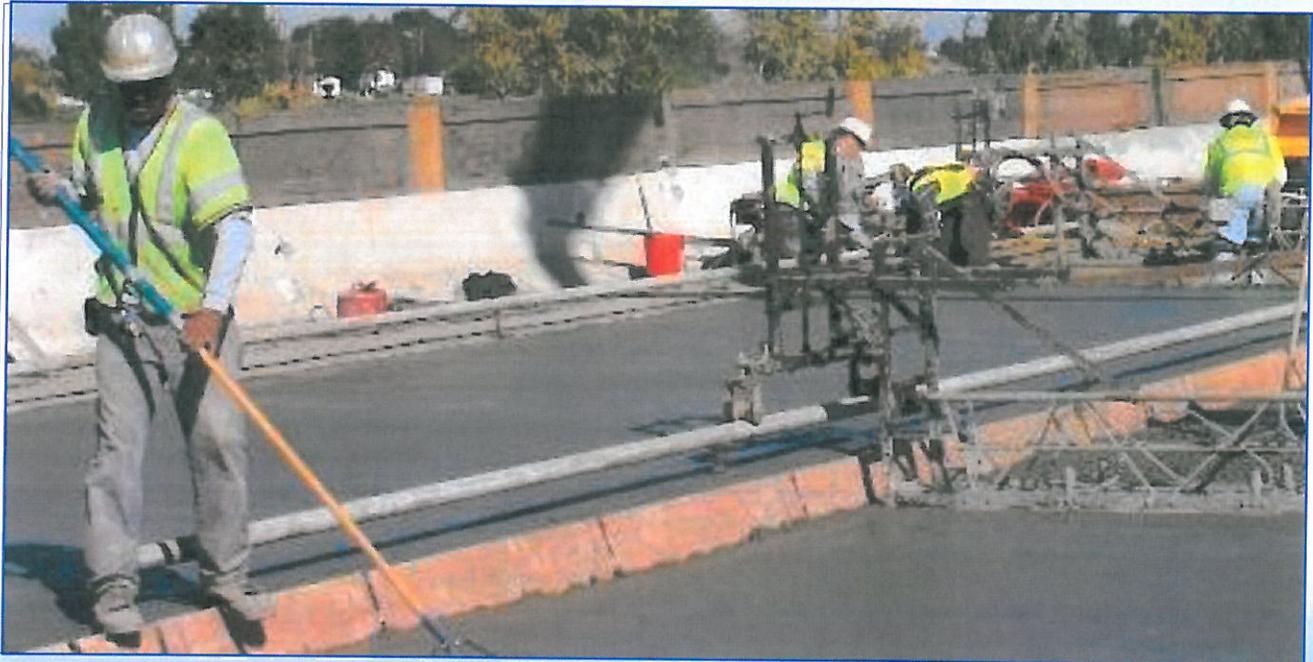
CALTRANS DISTRICTS 5, 7, 8, 11 & 12 ON-CALL CONTRACTS Los Angeles, Ventura, San Bernardino, Riverside & Orange Counties

Project Highlights

- The State of California is continuously providing improvements to Interstate Highways and State Routes throughout the state
- Improvements to infrastructure across Districts 5, 7, 8, 11 and 12 in southern California have improved traffic flow and movements of goods from the ports

Group Delta Highlights

- Provided geotechnical engineering services, materials testing and inspection services
- All field and laboratory services provided are in compliance with Caltrans specifications
- Projects have included batch plant inspection, night work, weekend work and reporting on short notice



Project Information

Client/ State of California
Owner: Department of
Transportation



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**DESIGN-BUILD
\$1.4 BILLION**

STATE ROUTE 91 IMPROVEMENT PROJECT Riverside County, CA

Project Highlights

- Corridor improvements focused on existing 14-miles of congestion
- Improvements to 6-mile boundary that runs from SR-241 toll road to the SR-91
- Project includes major improvements to I-15 Freeway Corridor
- Project to relieve major daily congestion

Group Delta Highlights

- Developed post advanced planning study geotechnical data reports for bridges
- Provided daily review of design-build contractors submittals
- Providing quality assurance materials testing and special inspection for multiple parcels within expanding Caltrans right of way



Project Information

Client:	Parsons
Owner:	Riverside County Transportation Commission
Total Cost:	\$1.4 Billion
Completed:	Ongoing



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DESIGN-BUILD
\$1.5 BILLION

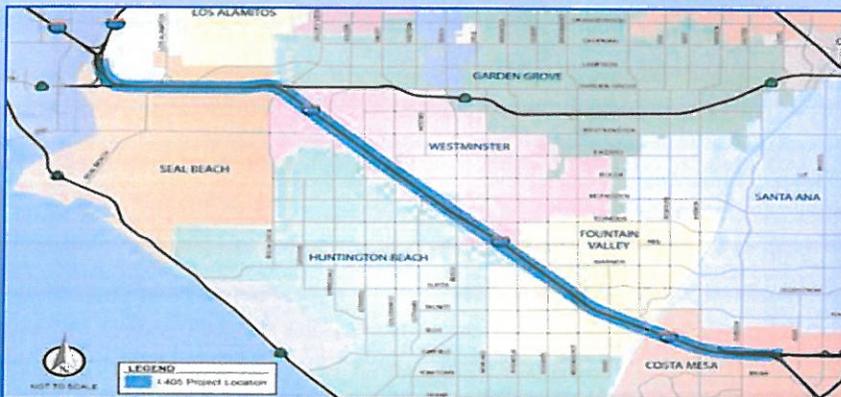
I-405 IMPROVEMENT PROJECT Orange County, CA

Project Highlights

- **Largest** transportation project in Orange County history
- 17-mile improvements to I-405 includes widening from SR-73 to I-605
- Addition of one general purpose lane in both the northbound and southbound directions
- Multi-jurisdictional services including night work along one of the busiest freeway in US

Group Delta Highlights

- ADL Study over 11 mile stretch of highway
- Soil and Groundwater Phase II Investigations, hazardous materials surveys
- Geotechnical investigations, foundation design, and recommendations



Project Information

Client: Parsons
Owner: OCTA/Caltrans
Total Cost: \$1.5 Billion
Completed: 2015



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SANTA ANA RIVER TRUNK SEWER Riverside, CA

Project Highlights

- New sewer is four miles long beginning at the east end of the Water Quality Control Plant
- Sewer will be 4 to 5.5 feet in diameter and 10 to 20 feet deep
- Approximately 2,500 feet of the alignment is tunneled under the existing railroad and in an area where a park exists

Group Delta Highlights

- Reviewed existing information and provided geotechnical engineering information for design of pipeline
- Evaluated liquefaction and lateral spreading potential along alignment
- Provided extensive field explorations and laboratory testing



Project Information

Client:	Brown & Caldwell
Owner:	County of Riverside
Total Cost:	\$11,660 Million
Completed:	2011



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EAST CENTRAL INTERCEPTOR SEWER (ECIS) Los Angeles, California

Project Highlights

- ECIS is a major sewer tunnel approximately 11.5 miles long with an 11 ft. inside diameter pipe
- Corridor is located in a densely developed area within central and southern sections of the city
- Project constructed in soft ground conditions in primarily alluvial soil conditions

Group Delta Highlights

- Installed 270 multi-point extensometers, 19 inclinometers and 8 observation wells
- Responsibilities included initial readings of each instrument before turning instruments over to the City of Los Angeles for monitoring
- Responsible for instrumentation of shaft excavation struts with strain gauges and monitoring stresses on the struts



Project Information

Client:	Kenny/Shea/ Traylor/Fontier
Owner:	County of Los Angeles
Total Cost:	\$1.3 Million
Completed:	2003



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PLAYA VISTA DEVELOPMENT Los Angeles, CA

Project Highlights

- Awarded the Gold Nugget Award in the single-family detached home category at the Pacific Coast Builders Conference
- Newly developed runway office, retail and housing project that will serve as Playa Vista's downtown
- Newly developed 66,000 sf \$45 Million, IMAX Headquarters

Group Delta Highlights

- Lead Geotechnical Engineering firm during both the design and construction phase
- Implemented multiple surcharge programs to mitigate large settlements
- Observed the installation of over 10,000 piles and hundreds of acres of grading
- Performed over 50 static axial pile load test



Project Information

Client:	Various
Owner:	Playa Vista LLC
Total Cost:	\$12 Billion
Completed:	Ongoing



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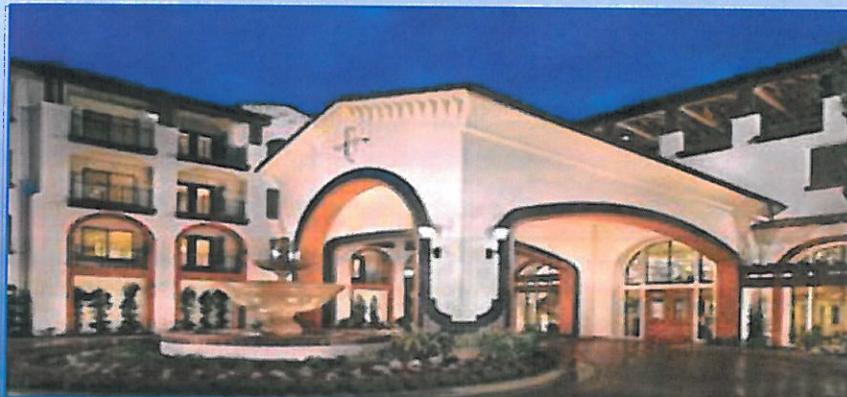
SAN SEBASTIAN SENIOR HOUSING Laguna Woods, CA

Project Highlights

- Demolition of an existing building and construction of a new three-story building and parking garage

Group Delta Highlights

- Negotiated site closure with the Regional Water Quality Control Board (RWQCB) via natural attenuation – ultimately allowing project to progress on schedule and saving client money
- Performed initial site assessment and follow-up site investigation



Project Information

Client:	The Robert Mayer Corporation
Owner:	The Robert Mayer Corporation
Completed:	2009



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SCHEDULE OF FEES



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Group Delta Consultants, Inc.

Prevailing Wage

Schedule of Fees 2015

HOURLY CHARGES FOR PERSONNEL

PROFESSIONAL SERVICES

Senior Principal	\$295
Principal	\$225
Associate	\$195
Senior	\$175
Project	\$155
Staff	\$135
Expert Testimony (minimum 4 hours)	\$400
Designer / Illustrator /AutoCAD	\$95
Project Assistant/Dispatch/Admin	\$75

TESTING & INSPECTION SERVICES *(inspection wages subject to prevailing wage)*

Project Manager.....	\$165
Quality Control Manager	\$145
Laboratory Manager	\$135
Concrete Inspector.....	\$100
Shotcrete Inspector.....	\$100
PT Strand Inspector.....	\$100
Masonry Inspector	\$100
Drilled In Anchor Inspector	\$100
AWS/CWI QC-1.....	\$100
Structural Steel Welding & Bolting Inspector	\$100
Structural Steel Shop Inspector.....	\$100
Fireproofing Inspector	\$100
Wood Frame/Shear Inspector.....	\$100
Waterproofing Inspector	\$100
Soils Technician	\$100
Deputy Grading Inspector	\$100
Asphalt Technician	\$100
Concrete Sampling Technician	\$100
Batch Plant Technician/Inspector	\$100

SPECIALTY TESTING SERVICES *(rates include equipment charges)*

Tile/Brick Shear Testing, Two Man Crew*	\$330
Tile/Substrate Pull Testing, Two Man Crew*	\$220
Coring Technician, Two Man	\$240
Coring Technician, One Man	\$155
UT/MT Non-Destructive Testing (Level II)*	\$98
Fireproofing Adhesion Testing*	\$98
Pachometer Survey	\$98
Torque/Pull Testing of Anchors & Bolts*	\$98
Rebar/Strand Tag & Sample.....	\$98
Moisture Emission Testing	\$98
Laboratory Testing	\$75
Sample Pickup (hr.)	\$55

*Subject to prevailing wage

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Schedule of Fees 2015

BASIS OF CHARGES

Minimum Charges (Field Services)

2-Hour Minimum: Show-Up Cancellation, no work performed
4-Hour Minimum: 1-4 work performed
8-Hour Minimum: over 4 hours of work performed

Regular Time

The first 8 hours worked Monday through Friday between 5:00 am and 5:00 pm

In the event that project related equipment is required to be transported to and from the project site, other than hand tools, the time required to do so shall be considered hours worked and will be billed as such.

Premium Charges

Shift Differential, shifts starting after 5:00 pm or before 5:00 am (requires 48 hr notice): \$2/Hr. Additional
Over 8 hrs on weekdays, up to 8 hrs on Saturdays: 1.5 x Hourly Rate
Over 12 hrs on weekdays, over 8 hrs on Saturdays, Sunday, Holiday: 2.0 x Hourly Rate

Pickups

Sample pickups occurring after hours or on weekends to comply with ASTM standards (required to be transported to the final curing location within 48 hours of casting) may be subject to premium charges (overtime).

Travel for Remote Projects

Travel time will be charged at the relevant base hourly rate.

Charges for Subcontracted Services

Outside Services/Subconsultants/Subcontractors: Cost Plus 15%

Reimbursable Expenses

Parking, air fare, car rental, food and lodging, etc.: Cost Plus 15%

Mileage

Mileage (per current IRS rate): \$.575/mile

Equipment/Supply Charges

Refraction Seismograph	\$55/hr.
Inclinometer Monitor	\$55/hr.
Hazardous Gas Safety Monitor	\$20/hr.
Pneumatic Piezometer/Settlement Monitor	\$55/hr.
Photo Ionization Detector	\$30/hr.
Mil Thickness Gauge	\$15/hr.
Nuclear Density Gauge	\$8/hr.
Skidmore.....	\$30/hr.
Moisture Vapor Emission Test Kit.....	\$55/ea.

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Schedule of Fees 2015

LABORATORY TESTING

(unit cost)

SOIL AND ROCK TESTS

CLASSIFICATION AND INDEX TESTS:

Atterberg Limits, Plasticity Index (ASTM D4318)	\$135
Non Plastic	\$95
Moisture Content (ASTM D2216)	\$25
Sieve Analysis % Passing #200 Sieve (ASTM D1140)	\$85
Sieve Analysis w/o Hydrometer (ASTM D422)	\$100
Sieve Analysis w/ Hydrometer (ASTM D422)	\$175
pH of Soil (CTM 643)	\$35
Soil Resistivity (CTM 643)	\$75
Soluble Sulfate (CTM 417)	\$85
Soil Chloride Content (CTM 422)	\$55
Corrosivity Series; Sulfate, Chloride, pH, Resistivity (CTM643, 417, 422)	\$220
Specific Gravity of Soil (ASTM D854)	\$100
Unit Weight/Moisture Content, wax (ASTM D2937)	\$55
Unit Weight/Moisture Content, shelby tube (ASTM D2937)	\$55
Unit Weight/Moisture Content, ring sample (ASTM D2937)	\$35

STRENGTH TESTS:

Direct Shear, Residual (ASTM D3080)	\$450
Direct Shear, Consolidated (ASTM D3080)	\$220
Direct Shear, Consolidated (ASTM D3080), Remolded	\$275
R-Value, (ASTM D2844, CTM 301)	\$275
R-Value, Lime Treated in Lab (ASTM D2844, CTM 301)	\$325
R-Value, Aggregate Base (ASTM D2844, CTM 301)	\$325
California Bearing Ratio (D1883)	\$600
Triaxial Compressive Strength (CU with PP)	\$1,100
Torsional Ring Shear (ASTM D7608)	\$650
Vane Shear Test (ASTM D4648)	\$35
Unconfined Compression (ASTM D2166)	\$180

VOLUMETRIC CHANGE:

Consolidation Test (ASTM D2435), w/o time rate	\$220
Consolidation Test (ASTM D2435), w/ time rate	\$330
Consolidation Test (ASTM D2435), single point	\$120
Free Swell	\$195
Double Oedometer	\$330
Expansion Index (ASTM D4829)	\$140
Response to Wetting (ASTM D4546)	\$85
Soil Suction (ASTM D5298)	\$95
Freeze Thaw (ASTM D6035)	\$85

PERMEABILITY:

Permeability of Granular Soil (ASTM D2434)	\$330
Permeability, Flexible Wall (ASTM D5084)	\$450

SOIL AND ROCK TESTS

PERMEABILITY: (cont)

Any necessary sample preparation time, including remolding, will be added at hourly rate.

COMPACTION:

Maximum Density and Optimum Moisture (ASTM D1557)	
4" Mold	\$165
6" Mold	\$185
Moisture Density of Soil-Cement Mixtures (ASTM D558)	
4" Mold, Soil Cement	\$220
Maximum Density/Optimum Moisture with Rock Correction (ASTM D4718)	\$250
Maximum Density Check Point (ASTM D1557)	\$75
California Impact Compaction, test only (CTM 216)	\$175

AGGREGATE/SUBGRADE:

Abrasion Test (ASTM C131/C535)	
500 Revs	\$175
100 & 500 Revs	\$200
1000 Rev	\$220
Clay Lumps/Friable Particles (ASTM C142)	\$100
Durability Index, Coarse (ASTM D3744/CTM229),	\$110
Durability Index, Fine (ASTM D3744/CTM229)	\$95
Durability Index, Coarse & Fine (ASTM D3744/CTM229)	\$185
Lime Stabilized Subgrade Mix Design	\$450
Organic Impurities (ASTM C40)	\$75
Percent Fractured Aggregate (ASTM D5821)	\$90
Fine Aggregate Angularity (ASTM C1252)	\$75
Sand Equivalent (ASTM D2419)	\$95
Sieve Analysis (ASTM C136)	
fine aggregate	\$100
coarse aggregate	\$85
Specific Gravity and Absorption:	
fine aggregate (ASTM C128)	\$135
coarse aggregate (ASTM C127)	\$85
Sulfate Soundness (ASTM C88) per sieve size	\$125
Cleanness Value (CTM 227)	\$120
Flat & Elongated Particles,	
Per Screen Size (ASTM D4791)	\$85
Unit Weight of Aggregate, loose/dry rod (ASTM C29)	\$85

SAMPLE PREPARATION

Sample preparation such as hand-cutting of samples, extraction from samplers, processing, and mixing of stabilized soils will be charged in addition to the individual test at the Engineering Technician hourly rate

\$80

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Schedule of Fees 2015

LABORATORY TESTING, CONTINUED

(unit cost)

CONSTRUCTION MATERIALS

ASPHALT CONCRETE:

Bulk Specific Gravity of Core, Coated (CTM 308, ASTM D1188)	\$85
Hveem Unit Weight (CTM 304/308), set of 3	\$245
Hveem Unit Weight (ASTM D2726), set of 2	\$195
Stabilometer Value, set of 3 (CTM 366)	\$190
Stabilometer Value Only, set of 3 without Unit Weight (CTM 366).....	\$300
Asphalt Concrete JMF Verification.....	\$2,400
Marshall Unit Weight (ASTM D1559), 3 plug average	\$220
Marshall Stability/Flow (ASTM D1560), set	\$210
Percent Bitumen (CTM 382)	\$110
Percent Bitumen & Gradation of Extracted Sample (CTM 382/202)	\$200
Film Stripping (CTM 302)	\$195
HMA Moisture Content (CTM 371).....	\$60
Specific Gravity (Rice) of Bitumen Mix (ASTM D2041)	\$145
Swell Test – Asphalt Concrete (CTM 305)	\$205
Ignition Oven Correction Factor Aggregate and oil	\$650
Ignition Oven Correction Factor Aggregate and oil w/ RAP	\$1,250
Hveem AC Mix Design.....	Quote
Marshall AC Mix Design	Quote
Tensile Strength Ratio, Field Mix (CTM 371).....	\$950
Tensile Strength Ratio, Lab Mix (CTM 371).....	\$1,700
Tensile Strength Ratio, Lab Mix w/ Lime (CTM 371).....	\$1,900
Tensile Strength Ratio, Field Mix (ASTM D4867).....	\$750
Tensile Strength Ratio Lab Mix (ASTM D4867).....	\$1,500
Tensile Strength Ratio, Lab Mix w/ Lime (ASTM D4867).....	\$1,700

REINFORCED CONCRETE TESTS:

Compressive Strength, per cylinder (ASTM C39)	\$29
Compressive Strength, per core (ASTM C39/42)	\$55
Flexural Strength, 6x6x18 beam (ASTM C78).....	\$75
Compressive Strength, Shotcrete Panel, Set of 3 (ASTM C39/42).....	\$275
Compressive Strength of Shotcrete Cores, each.....	\$55
Removal of Shotcrete Cores, In Lab, each	\$45
Compressive Strength, Light Weight Concrete Fill	\$35
Drying Shrinkage, 3 specimens, 28-day (ASTM C157).....	\$440
Modulus of Elasticity (ASTM C469).....	\$185

CONSTRUCTION MATERIALS

REINFORCED CONCRETE TESTS: (cont)

Tensile Strength, Splitting (ASTM C496)	\$85
Petrographic Analysis of Cementitious Mat	Quote
Cement Content Analysis of Conc. (ASTM C1084)	\$850
Coefficient of Thermal Expansion	\$650
Concrete Trial Batch w/ lab testing.....	\$1,100
Sample Pickup, trip	\$55

STRUCTURAL MASONRY:

Compressive Strength of Composite Prism, each 8x8x16 (ASTM C1314)	\$120
8x12x16 (ASTM C1314)	\$190
Compressive Strength of Masonry Block, Set of 3 (ASTM C140)	\$190
Linear Shrinkage of Masonry Blk, set of 3 (ASTM C426) ..	\$250
Shear Test of Masonry Cores, 6" (DSA).....	\$85
Compressive Strength of Masonry Cores, 6"	\$60
Dimensions of Masonry Blk, Set of 3 (ASTM C140).....	\$50
Efflorescence, Block with Mortar, per unit	\$50
Efflorescence, Block only, per unit.....	\$50
Absorption of Masonry Block (ASTM C140), Set of 3	\$85
Unit Weight of Masonry Block (ASTM C140), Set of 3	\$85
Moisture Content of Masonry Block (ASTM C140), Set of 3	\$85
Mortar Compressive Strength 2x4, per cylinder (UBC STD 21-16)	\$55
Grout Compressive Strength 2x2x2, per cube (ASTM C109)	\$40
3x3x6, per cube (UBC STD 21-18)	\$55
Brick Compressive Strength, 5 brick set (ASTM C67)	\$220
Brick Absorption Test (ASTM C67) 5 or 24-hour submersion, 5 brick set	\$220
1, 2, or 5-hour boiling, 5 brick set	\$220
Efflorescence, Brick, 5 brick set (ASTM C67).....	\$220
Modulus of Rupture, 5 brick set (ASTM C67).....	\$160
Moisture As-Received, 5 brick set (ASTM C67)	\$135
Saturation Coefficient/Absorption, 5 brick set (requires 24 hr. Submersion and 5 hr, boil Absorption test prior to calculation)	\$110

Group Delta Consultants, Inc.

Schedule of Fees 2015

LABORATORY TESTING, CONTINUED

(unit cost)

CONSTRUCTION MATERIALS

STRUCTURAL STEEL:

High Strength Bolt Testing (ASTM F606)	
Hardness, bolt, washer, or nut, each	\$35
Bolt Wedge Tensile, up to 7/8", each	\$60
Bolt Wedge Tensile, 1 to 1-1/4", each	\$85
Bolt Wedge Tensile, over 1-1/4", each	Quote
Bolt Proof Load, up to 7/8", each	\$50
Bolt Proof Load, 1 to 1-1/4", each	\$75
Bolt Proof Load, over 1-1/4", each	Quote
Nut Proof Load, up to 7/8", each	\$40
Nut Proof Load, 1 to 1-1/4", each	\$60
Nut Proof Load, over 1-1/4", each	Quote
Bolt Assembly Test Series, Set of 3	\$525
Set-Up, charged for each size if less than three bolts of each size are submitted	\$90
Rebar, Tensile Test (ASTM A370)	
No. 9 bar and smaller	\$60
No. 10-14 bar	\$95
No. 18 bar	\$170
Rebar, Bend Test (ASTM A370)	
No. 9 bar and smaller	\$45
No. 10-14 bar	\$65
Welded Rebar (CTM 670)	
No. 9 bar and smaller	\$60
No. 10-14 bar	\$100
Mechanically Spliced (CTM 670)	
No. 9 bar and smaller	\$65
No. 10-14 bar	\$110
No. 18 bar	\$175
Slippage Test in Addition to Tensile, each	\$60
Structural Steel, Tensile Test (ASTM A370)	
100k or less	\$70
101k-200k	\$85

CONSTRUCTION MATERIALS

STRUCTURAL STEEL: (cont)

Structural Steel, Bend Test	\$60
Structural Steel, Pipe Flattening Test	\$50
Seven Wire Strand, Tensile/MOE (ASTM A416)	\$190
Seven Wire Strand, Tensile Only (ASTM A416)	\$130
Machining and Prep. of Structural Steel	\$70
Structural Steel Chemical Analysis	\$180
Skidmore Bolt Calibration, In Lab	\$115
Weld Procedure Qualification Test, Rebar	\$345
Welder Qualification Test, Rebar	\$145
Weld Procedure Qualification Test	\$395
Welder Qualification Test	\$145
Carbon Equivalent	\$110
Carbon Equivalent, Including Calculation	\$165
Macroetch Test of Welds	\$75
Nelson Stud Tensile (ASTM A370)	\$225
Charpy Impact Testing	Quote

FIREPROOFING:

Spray-Applied Fireproofing, Density (ASTM E605)	
Oven-Dry Method	\$50
Displacement Method	\$50

ROOFING:

Asbestos Evaluation, per ply	\$60
Asphalt Softening Point	quote
Roofing Material Analysis (ASTM D2829)	
with Surfacing	quote
without Surfacing	quote
Roofing Tile, Absorption, set of 5 (ASTM C67)	\$220
Roofing Tile, Strength, set of 5 (ASTM C67)	\$220



GROUP DELTA

City of Rancho Palos Verdes
30940 Hawthorne Boulevard
Rancho Palos Verdes, CA 90275

June 15, 2015
LA15-050

Attention: Pam Mitchell for Ron Drago, Principal Engineer

Subject: On-Call Geotechnical Engineering, Materials Testing & Inspection Services

Group Delta Consultants, Inc. (Group Delta) is pleased to provide our Statement of Qualifications including our 2015 Schedule of Fees. Group Delta's strengths and experience include:

- **Strong Presence in California** – We are a geotechnical, environmental engineering and materials testing and inspection firm with a current staff of 110+ professionals; seven offices; and two certified in-house soils and materials laboratories.
- **Experience** – We have 29 years of project experience in California. Our field staff has 10 to 30 years of diverse experience and various certifications. Our professionals include California Registered Civil Engineers, Geotechnical Engineers, Registered and Certified Engineering Geologists, and Licensed Deputy Inspectors. Our field and laboratory technicians hold industry standard certifications and registrations related to their testing capabilities, including Caltrans, ICC, NICET, ACI, City of Los Angeles, nuclear density gauge, and HAZWOPER 40-hour and current 8-hour refresher training. Our laboratory facilities are calibrated to testing standards mandated by AASHTO, including AMRL, CCRL, ASTM, DSA, Caltrans, US Army Corps of Engineers, and others.
- **Pro-Active/Responsiveness** – We understand that communication and responsiveness are key factors in successful projects, and will pro-actively work the City and their contractor to provide up to date results and recommendations to accelerate construction activities.

We look forward to continuing to provide our services to the City of Rancho Palos Verdes.

Sincerely,

Group Delta Consultants, Inc.

Thomas Swantko, GE
Principal Geotechnical Engineer

Group Delta Consultants, Inc.

Schedule of Fees 2015

LABORATORY TESTING, CONTINUED

(unit cost)

CONSTRUCTION MATERIALS

ASPHALT CONCRETE:

Bulk Specific Gravity of Core, Coated (CTM 308, ASTM D1188)	\$85
Hveem Unit Weight (CTM 304/308), set of 3	\$245
Hveem Unit Weight (ASTM D2726), set of 2	\$195
Stabilometer Value, set of 3 (CTM 366)	\$190
Stabilometer Value Only, set of 3 without Unit Weight (CTM 366).....	\$300
Asphalt Concrete JMF Verification.....	\$2,400
Marshall Unit Weight (ASTM D1559), 3 plug average	\$220
Marshall Stability/Flow (ASTM D1560), set	\$210
Percent Bitumen (CTM 382)	\$110
Percent Bitumen & Gradation of Extracted Sample (CTM 382/202)	\$200
Film Stripping (CTM 302)	\$195
HMA Moisture Content (CTM 371).....	\$60
Specific Gravity (Rice) of Bitumen Mix (ASTM D2041)	\$145
Swell Test – Asphalt Concrete (CTM 305)	\$205
Ignition Oven Correction Factor Aggregate and oil.....	\$650
Ignition Oven Correction Factor Aggregate and oil w/ RAP	\$1,250
Hveem AC Mix Design.....	Quote
Marshall AC Mix Design	Quote
Tensile Strength Ratio, Field Mix (CTM 371).....	\$950
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