

Regional Connector



GROUP DELTA

Statement of Qualifications Design-Build



**State Route 91
Improvements**

Serving California Since 1986



LAUSD Dorsey High School



**Gerald Desmond Bridge
Replacement**

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 Ridgecrest Road
Suite 226
Victorville, CA 92395 (760)
881-3225

Oakland
1970 Broadway
Suite 1100
Oakland, CA 94612
(510) 671-0010

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

“Delta is the Difference”



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



GROUP DELTA

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



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





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



GROUP DELTA

PROJECT EXPERIENCE



GROUP DELTA

**DESIGN-BUILD
\$1.47 BILLION**

REGIONAL CONNECTOR TRANSIT CORRIDOR Los Angeles, CA

Project Highlights

- A 1.9-mile fully underground line will connect the Metro Gold Line, Blue Line and Expo Line and provide **three new downtown LA underground** subway stations
- A massive cut and cover operation is proposed for the construction of the tunnel due to the extensive underground utility lines

Group Delta Highlights

- Provided static and dynamic geotechnical recommendations for the stations and cut and cover structures
- Geomechanical numerical analyses performed for the project to analyze seismic racking behavior of the underground structures
- Adjacent buildings settlement analyses due to deflection of the shoring. The analyses were used in support of development of building projection plan



Project Information

Client:	Skanska
Owner:	Regional Connector Constructions (RCC)
Total Cost:	\$1.47 Billion
Completed:	Ongoing



GROUP DELTA

**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 US
- Higher clearance to accommodate the newest generation of efficient cargo ships
- 2nd tallest cable-stayed design in the US

Group Delta Highlights

- Performed site-specific non-linear time history seismic analysis for main span structure
- Served as Environmental compliance manager
- Contaminant plume modeling and analysis during construction phase
- Geotechnical Engineer of Record and review of seismic and foundation reports



Project Information

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



GROUP DELTA

**DESIGN-BUILD
\$1.4 BILLION**

STATE ROUTE 91 IMPROVEMENT 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
- Provided geotechnical data reports for bridges
- Provided daily review of design-build contractors submittals
- All work performed under formal QA/QC program in accordance with ISO 9000
- Provided quality control materials testing and inspection



Project Information

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



MTA EXPOSITION LIGHT RAIL PHASE 2 Los Angeles, CA

Project Highlights

- The 15.2-mile expo light rail line utilizing the exposition corridor with 19 stations
- Phase 2 includes 7 **new** stations along the Westside
- The Exposition Light Rail Transit (LRT) to Santa Monica is a significant and long-term public investment in transit, city-wide and regional mobility, and sustainability

Group Delta Highlights

- Materials evaluation of 1920's brick arch tunnel under light rail road
- Provided geotechnical recommendations for Expo LRT stations over Sepulveda Blvd. and Centinela
- Multiple Mechanical Stabilized Earth (MSE) light rail walls



Project Information

Client:	Parsons Brinkerhoff Design- Skanska- Rados Joint Venture
Owner:	Los Angeles MTA
Total Cost:	\$1.5 Billion
Completed:	Ongoing



GROUP DELTA

**DESIGN-BUILD
\$28 MILLION**

LAUSD DORSEY HIGH SCHOOL Los Angeles, CA

Project Highlights

- **First** Los Angeles Unified School District (LAUSD) Design-Build Project which included a new gymnasium and ninth grade academy classroom building
- Low noise/vibration pile installed on an active school campus
- **First** auger cast piles project for LAUSD

Group Delta Highlights

- Provided materials testing for Los Angeles Unified School District's **First** Design-Build Project
- Geotechnical oversight provided through construction
- Quality control inspection services



Project Information

Client:	Los Angeles Unified School District
Owner:	LAUSD
Total Cost:	\$28 Million
Completed:	2014



GROUP DELTA

**DESIGN-BUILD
\$40.5 MILLION**

SOCIAL & BEHAVIORAL SCIENCE BUILDING San Diego, CA

Project Highlights

- Three-story, 74,000 sf building which includes classrooms, laboratory spaces, faculty and administrative offices located at San Diego Mesa College
- Project includes a complete on-site water management system
- Classrooms assembled along a single-loaded exterior corridor

Group Delta Highlights

- Construction testing, materials testing and special inspection
- Provided geotechnical parameters for foundation design
- Testing services for all reinforcing steel, reinforced concrete, post-tensioned concrete, structural steel, bolts, welding, masonry, anchors and fire proofing



Project Information

Client:	San Diego Community College District
Owner:	Mesa College
Total Cost:	\$40.5 Million
Completed:	2014



GROUP DELTA

**DESIGN-BUILD
\$20 MILLION**

LA METRO GOLD LINE ICONIC BRIDGE Los Angeles, CA

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 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



GROUP DELTA

**DESIGN-BUILD
\$81 MILLION**

MATHEMATICS AND SOCIAL SCIENCE BUILDING SAN DIEGO, CA

Project Highlights

- Associated support space along with 7 Tier, 400-car, parking garage
- Project includes classrooms, a health center and corporate education center
- 5-story, 73,000 gross square feet building

Group Delta Highlights

- Provided testing services for reinforcing steel, reinforced concrete, post-tensioned concrete, structural steel, bolts, welding, masonry, anchors and fire proofing
- Geotechnical parameters for foundation design
- Provided construction testing, materials testing and special inspection



Project Information

Client:	San Diego Community College District
Owner:	San Diego City College
Total Cost:	\$81 Million
Completed:	2012



GROUP DELTA

**DESIGN-BUILD
\$13.4 MILLION**

LACCD OLIVE STREET PARKING STRUCTURE Los Angeles, CA

Project Highlights

- **First** design-build project for Los Angeles Community College District (LACCD)
- The roof top was designed to carry photovoltaic panels for future use
- **New** six-level, 250,000 sq. ft. parking structure located across the street from the campus

Group Delta Highlights

- Served as the Inspector of Record
- Construction support services including material testing and quality control inspection services



Project Information

Client:	Los Angeles Community College District (LACCD)
Owner:	LACCD
Total Cost:	\$13.4 Million
Completed:	2007



GROUP DELTA

**DESIGN-BUILD
\$490 MILLION**

STATE ROUTE 22 IMPROVEMENTS Orange County, CA

Project Highlights

- ACEC 2006 Project of the Year
- Improvements were made for approximately 12 miles and extended through four cities
- Included 32 bridge structures, 83 retaining walls and sound walls, 51 ramps and 317 utility crossings

Group Delta Highlights

- Developed 33 post advanced planning study geotechnical data reports for 33 bridges
- Work performed under a formal QA/QC program in accordance with the ISO 9000
- Provided construction support services including material testing and inspection
- Moderate seismic accelerations and shallow groundwater



Project Information

Client:	Orange County Transportation Authority (OCTA) & Caltrans
Owner:	Parsons
Total Cost:	\$490 Million
Completed:	2006



GROUP DELTA

**DESIGN-BUILD
\$324 MILLION**

MTA ORANGE LINE BUS RAPID TRANSIT PHASE 1 Los Angeles, CA

Project Highlights

- Project alignment is 14-miles long with a 26ft wide bus lane along the entire alignment
- Links to the Metro Red Line with a total of 12 Bus Rapid Transit (BRT) stations
- Construction of a retaining wall where the alignment crosses below the I-405 freeway
- Approximately 30,500 linear feet of 12 ft. high sound walls

Group Delta Highlights

- Provided geotechnical investigation and cost efficient pavement section design recommendations for the **first dedicated BRT in California** that **saved MTA \$10 million** in project cost
- Project included a petro-mat and tack coat system



Project Information

Client:	Shimmick/Obayashi
Owner:	Los Angeles MTA
Total Cost:	\$324 Million
Completed:	2005



**DESIGN-BUILD
\$300 MILLION**

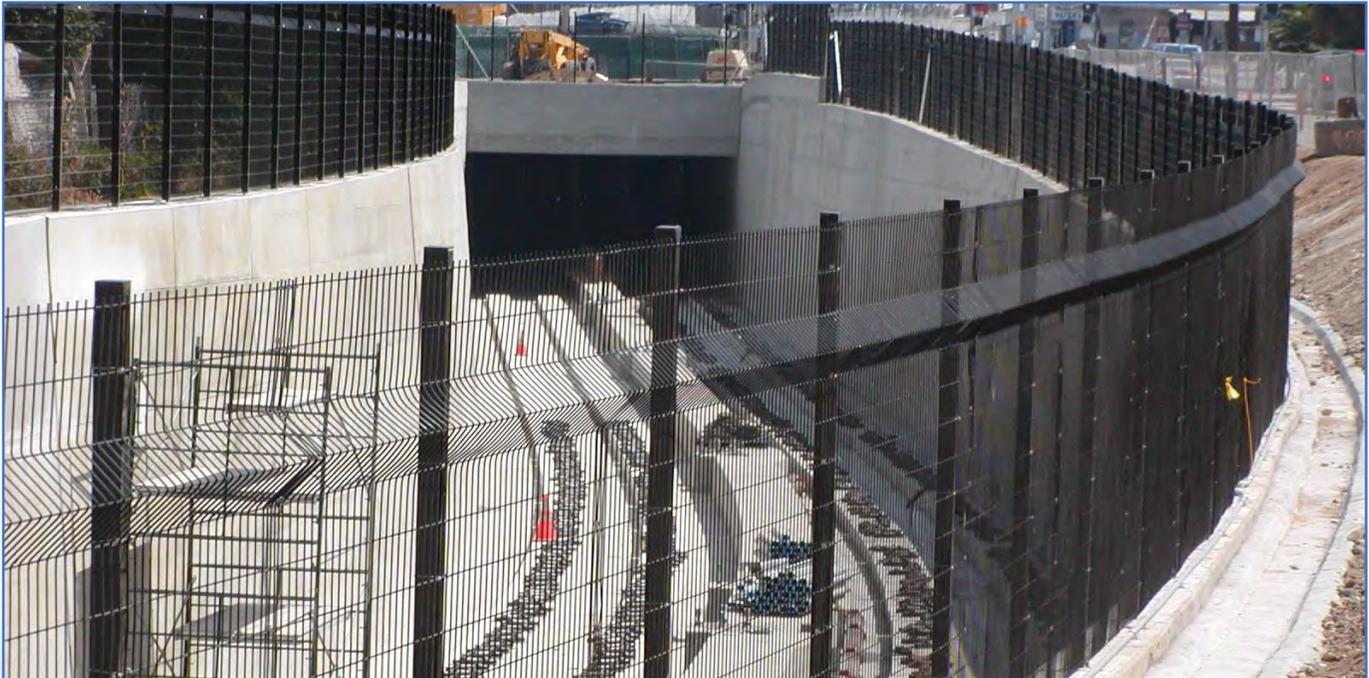
MTA PASADENA GOLD LINE Pasadena, CA

Project Highlights

- Links Union Station in Downtown LA and Sierra Madre Villa in East Pasadena
- This Light Rail Transit (LRT) line consists of a double tracked system using electric current overhead wire
- The project is primarily at-grade following the abandoned Atchison Topeka & Santa Fe (ATSF) Railroad right-of-way

Group Delta Highlights

- Provided 10 segment reports, 13 station reports, 2 seismic and 1 new pedestrian overcrossing report
- The reports provided recommendations for retaining walls, MSE walls, stations and platforms, Caltrans structure foundations, static and seismic earth pressures for temporary shoring and permanent walls, etc.



Project Information

Client:	Kiewit/Washington
Owner:	Los Angeles MTA
Total Cost:	\$300 Million
Completed:	2003



GROUP DELTA

**DESIGN-BUILD
\$42 MILLION**

CROUL HALL – EARTH SYSTEMS SCIENCE BUILDING University of California, Irvine, CA

Project Highlights

- **New** science educational building that included a full basement
- Major issue was the load bearing capacity of the underlying bedrock stratum
- Most energy efficient laboratory building on campus
- **LEED Silver** building and part of the campus SMART Labs Program

Group Delta Highlights

- Provided estimated elevation contours for the alluvial/bedrock
- Provided evaluation of the temporary construction slopes required for basement construction and underground utility installation
- Provided geotechnical analysis and value engineering to the Design-Build Team



Project Information

Client:	Hensel Phelps Construction
Owner:	University of California Irvine
Total Cost:	\$42 Million
Completed:	2001