

MEETING DATE: 04/11/11

AGENDA ITEM: Approval of a Professional Services Agreement
with IDC Consulting Engineers, Inc. for
Preliminary Engineering Services for the
Higuera Street Bridge
Replacement/Rehabilitation Project, P-553

ATTACHMENTS

	<u>Pages</u>
1 Proposal from IDC Consulting Engineers, Inc.	24

CULVER CITY PUBLIC WORK DEPARTMENT

Preliminary
Engineering
Service
for



HIGUERA BRIDGE

REPLACEMENT/REPLACEMENT

In Cooperation with

PSOMAS

Hushmand Associates, Inc.

GPA ENVIRONMENTAL

Rivertech, Inc.



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ENGINEERING DIVISION
CITY OF CULVER CITY

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Section One – Letter of Introduction

February 16, 2011

Mr. Sammy Romo, PE
Culver City Public Works Department
9770 Culver Boulevard
Culver City, CA 90232

Ref.: Proposal for Higuera Street Widening

Dear Mr. Romo:

IDC Consulting Engineers, Inc. is pleased to submit our proposal for the referenced Bridge Widening Project. IDC is a UDBE/DBE/WBE firm incorporated in the State of California that specializes in Transportation Structural Design. We provide highly technical, reliable and efficient services to a variety of public agencies. Our staff consists of experienced and accomplished engineers who are considered experts in their field. They are familiar with the AASHTO, Caltrans and Green book design criteria. Our staff also takes pride in utilizing the latest techniques and state of art methods of analysis and design of bridge structures.

Our firm also offers extensive experience, which has been complimented with innovative ideas; perfect solutions for every complicated condition and state of the art analysis and design. By working on numerous Design/Build Projects, our staff has gained valuable experience that will enable us to deliver the most economical project with no construction glitches.

As a focused bridge engineering firm, the three senior engineers of our firm bring over 90 years of bridge engineering to your project.

Our team is also complimented by three local highly qualified firms. **PSOMAS**, will provide Civil/Utility/Surveying & Mapping design services. Psomas is one of the top Los Angeles home-based civil engineering firms and has extensive working experience with Southern California agencies, including Culver City. **Hushmand Associates, Inc. (HAI)** will be providing geotechnical services. They have extensive bridge experience and recently worked on several bridge widening projects with IDC. The environmental tasks will be led by **Galvin Preservation Associates Inc.** GPA is also a well-known environmental engineering firm that has worked on a variety of bridge projects and is currently working with IDC on several LA City bridge widening projects. We also have invited **Rivertech, Inc.** to join our team for as-needed hydraulic analysis. Rivertech is also working with IDC on the North Spring Street Viaduct Widening over the LA River.

In addition to our experienced key staff and outstanding team members, the following are differentiators that make IDC team uniquely qualified for the Higuera Street Bridge Widening Project:

- Vast Experience with Similar Bridge Widening Projects – the IDC Team has a proven track record of preparing Type Selection Reports and PS&E for numerous bridge widening projects.
- Local Knowledge – the IDC Team has excellent established working relationships with Culver City, the City of Los Angeles, Caltrans, Corps and LA County Flood Control District that will allow us to provide unparalleled customer service. Our task leaders used to work for Caltrans, Culver City and LA County and provide design services to the City of Los Angeles. The IDC Team can call upon our personal/professional relationship and unmatched knowledge and understanding of the needs and operations of each agency to ensure top quality services is provided to the City on this project.

Section One – Letter of Introduction

- **Responsiveness** – Five of the key personnel assigned to your project are principals of their respective firms, which guarantees team continuity, accountability and responsiveness.

Enclosed are one original and three copies of our proposal. We are confident that you will find our team's experience and capabilities to be an excellent match to the needs of this project, and we stand ready to commence work immediately.

Brief Project Understanding: The Higuera Bridge over the Ballona Creek is a 3-span steel deck, 193'-6" long and 41'-4" wide. Caltrans Inspection report indicated that the structure has a Sufficiency Rating (SR) of 72.9. Since the SR is less than 80, the bridge considered Functionally Obsolete. Three categories impacting the SR are:

- Structural Adequacy and Safety (Current and Future ADT)
- Serviceability and Functional Obsolescence (70' wide approach; 30' curb to curb Bridge)
- Essentiality for Public Use (demand and growth)

In some cases Special Reduction is also used to calculate a more realistic SR. For instance, the bridge is designed for 50 years life span and it is currently 74 year old. The deck is deteriorated allowing cracks to penetrate deep. The bottom reinforcement is also rusted creating unsafe conditions. The bridge is not designed for the current vehicular loading that could compromise the integrity of the structure. As a matter of fact, we believe that the MS18.6 rating listed on the Caltrans report is questionable. It also should be noted that the existing bridge is constructed with two end spans as cantilevered segments. This type of construction is not sanctioned by new design criteria and has inherent maintenance and operational problems. Excessive deck cracking and significant vibration due to vehicular traffic are the results of unconventional design/construction. It should be noted that the As-Build plans provided in the RFP does not reflect the actual bridge type. We will discuss these issues in more details in our approach.

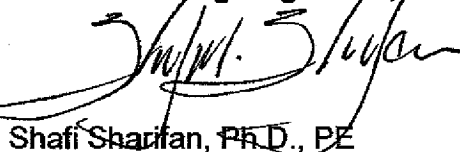
Because of the reasons outlined above, it is essential to rehab/replace the structure. It also should be mentioned that the existing bridge was retrofitted in 1998. Studying the retrofit plans, we identified additional deficiencies that need to be addressed in rehab condition.

We understand the City has secured funding to rectify the existing condition either by widening and rehabbing the structure or by replacing it. Obviously if the cost of rehab is more than 50% of the replacement cost, it is warranted to replace the 74 year old bridge altogether. The widened bridge will accommodate two traffic lanes, bike lanes and a sidewalk for each direction.

We are looking forward to working with you on this interesting and challenging project. If you have any questions or need additional information, please contact me any time, on my cell at (949) 274-2102.

Sincerely,

IDC Consulting Engineers, Inc.



Shafi Sharifan, Ph.D., PE

Principal

2.0 INTRODUCTION TO IDC TAM

IDC will be the lead designer for the Higuera Street Widening Project. **PSOMAS** will lead Civil/Surveying & Mapping and right-of-way support service; **Hushmand Associates, Inc. (HAI)** will provide Geotechnical Engineering and Testing Services; **Galvin Preservation Associates**, environmental documentation preparation and securing approval; and **Rivertech** will provide Hydrology/Hydraulic Analysis services if needed. These firms have each performed extensive work in Southern California and will bring their experiences to bear on this project. They have all worked on transportation projects with IDC and each other, providing the City a very cohesive and efficient team.



IDC Consulting Engineers, Inc. was established in October, 1995. IDC is a certified UDBE/DBE/WBE firm focused on providing the most technologically advanced, cost effective, practical and innovative structure solutions to clients.

IDC engineers have established a good record in providing high quality service on planning, engineering, design (particularly bridge design), and seismic analysis for projects in California. The three senior staff at IDC have more than 90 years of combined bridge design experience and have worked on more than 100 Bridge Projects.

IDC staff's experiences include working on numerous high profile and complicated projects for different clients such as:

- ♦ **Caltrans:** Bay Bridge, Coronado Bay Bridge, Carquinez Strait Bridge, Toll Road Bridge Retrofit Projects.
- ♦ **City of Los Angeles:** Gold Line Extension-First Street Bridge Widening over LA River, North Spring St. Widening over LA River, 6th Street over LA River, Martin Luther King Jr. Bridge, Azusa Canyon Bridge, Tujunga Ave. Bridge over LA River, Vanowen St. Bridge over Bull Creek, 182nd Street Over Dominguez Channel, Malibu Canyon Rd. Bridge, Colfax Over LA River, and the Riverside Drive Bridge over Tujunga Wash.
- ♦ **Other agencies and cities include:** Southern California Railroad Authority (SCRRA), Grade Separations in the Cities of Rancho Cucamonga, Vernon, Santa Ana, San Dimas, Riverside, and many others.
- ♦ **Metro:** Exposition LRT, Gold Line Project (LA River Bridge, China Town Aerial, First Street Widening), State Route 210 Extension
- ♦ **ACE & ACTA:** Reservoir Street Gs, East End Ave. GS, Redondo Junction Grade Separation (GS) over LA River, Washington Ave. GS, Henry Ford GS, Long Beach Lead over Dominguez Channel.

2.1 ABILITY OF CONSULTANT TO PERFORM REQUIRED WORK

IDC is proud of its history and its role as an expert Bridge Design Firm. For nearly 16 years, IDC has been providing engineering and design expertise to Southern California clients. As an established consulting firm, we take pride in the fact that we have never failed to meet our responsibilities and have always delivered projects on time and within the budget.



2.2 EXPERIENCE WORKING AS A TEAM

The key IDC Team members presented in the organizational chart have an extensive track record of working together and collaborating on many of the landmark transportation projects in Southern California. IDC, PSOMAS, Rivertech and GPA are currently working as team on the North Spring Street Viaduct Bridge Widening Project over the LA River. IDC and HAI have been working on numerous projects including the First Street Viaduct Bridge Widening Project, also over the LA River.

2.3 CURRENT STAFF AVAILABILITY

For each project at IDC, we forecast staff availability to confirm that proposed personnel are available to provide the proposed services for the scheduled project duration. The key members of the team were selected both for their expertise, which is substantial, and for their ability to commit the majority of their time to the Higuera Widening Project.

Team Members/ Proposed Role	Current Assignments and Level of Commitment (%)	Availability for this Assignment
Shafi Sharifan, PhD, PE Project Manager	- Widening San Fernando Road 15% - Office Management & Other Responsibilities 15%	70%
Xiaoyun Wu, PhD, PE Bridges/Walls Lead designer	N. Spring St. over LA River Widening 15% - First St. widening Over LA 10% - Other 10%	65%
Ken Berkman, PE Civil Design Lead/ Utility Coordinator	- North Spring Street Viaduct 20% - Walnut Street Pavement Rehabilitation 5% - Various PM and QA/QC responsibilities 5% - Others 10%	60%
Anissa Voyiatzes, PE QA/QC Manager	- North Spring Street Viaduct 35% - Various PM/Team Leadership responsibilities 35%	30%
Richard Galvin, Environmental Lead	N. Spring St. over LA River Widening 20% - Fletcher Drive, Over the LA River Retrofit 5% - North Main St., Over the LA River Retrofit 5%	70%
Ben Hushmand, PhD, PE Geotechnical and Seismic Engineer	- Wildwood Canyon Park 10% - Sierra Sun Tower Station 10% - Office Management & Other Responsibilities 15%	65%
Ali Bastani, PhD, PE, GE Geotechnical and Seismic Engineer	- Alton Pkwy Gap Closure 25% - Office Management & Other Responsibilities 10%	65%

*Availability for this assignment based on Notice to Proceed date of February 2011.

2.4 KEY PERSONNEL

2.4.1 Project Management Team

IDC has recently completed over 10 Bridge Widening/Replacement/Retrofit projects throughout southern California. Our proposed project team members have worked together on many of these projects. By drawing upon this extensive experience, we will identify all of the critical issues and risks early and propose proven solutions.

With over 30 years of project management experience on transportation projects, our project manager, Shafi Sharifan, has extensive experience working on many local projects. He has developed professional and personal relationships with many stakeholder decision-making personnel, such as City of Los Angeles BOE, Caltrans, LA County Department of Public Works and the Flood Control District, the Corps, and LADWP.

Mr. Sharifan recently completed three major projects with the City of Los Angeles that required extensive coordination with Caltrans and the Corps. His experience and relation-building talents will be especially valuable for this project.

2.4.2 Staff Commitment

The IDC Team members proposed for this project have no major commitments that would impede their ability to allocate adequate time for the work requirements of this project. All of our proposed personnel, including those designated as “key,” will be available to the extent proposed for the project’s duration. No person designated as “key” shall be removed or replaced without the City’s written approval.

Our “A Team” of seasoned design professionals with extensive Bridge Widening experience will deliver a successful final design – on schedule and within budget.

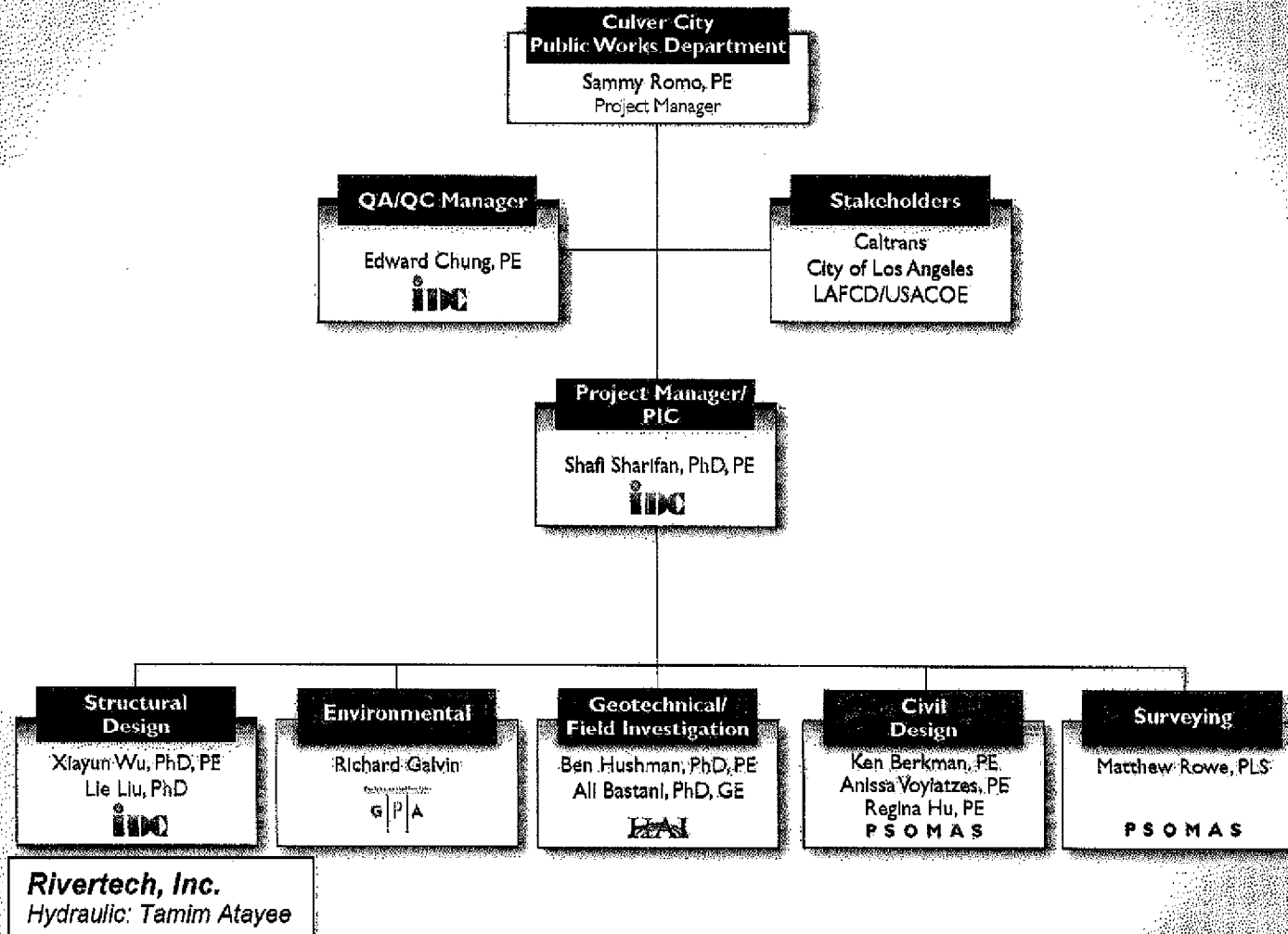
2.4.3 Project Organization Chart

The organization chart shown on the following page presents our proposed team and delineates the lines of communication among the various team members. IDC understands that individuals deliver projects. As such, the IDC Team will be led by five fully dedicated and highly qualified individuals: Ken Berkman, Xiaoyun Wu, Richard Galvin, Ben Hushmand and Matthew Rowe. Mr. Sharifan will lead this core team as Project Manager as depicted in the Organization Chart.

2

SECTION TOW

PROJECT TEAM



2.4.4 Brief Key Personnel Brief Resumes

This section provides a brief summary of each of our key personnel's qualifications for his proposed role as well as an abbreviated listing of their project experience. This summary reinforces the reasoning behind the selection of each individual for their key roles on this project. Please also refer to the Appendix for full resumes of the discipline leads and additional staff.

Shafi Sharifan, PhD, PE-- Project Manager

Shafi Sharifan, a principal at IDC, has over 30 years of broad experience in civil and structural engineering, with responsibility for coordination and management of design, analysis, detailing and estimating of a variety of projects including several award winners, such as the 400-foot long span Balanced-Cantilever segmental Bridge over LA River for the Gold Line LRT. Mr. Sharifan's management and design experience includes working for different cities, Caltrans, OCTA, ACE, ACTA, Metro, and railroad agencies. Shafi has just finished working on four LA City projects. He was the Structural Lead in charge of preparing the PS&E for the widening of the Historic First Street Concrete Arch Bridge over LA River, accommodating two new LRT tracks. Shafi also led the widening of the North Spring Street Bridge, another historical Concrete Arch over LA River, as well as studying different alternatives and preparing Advanced Planning Studies (APS) for the historical 6th Street bridge replacement over LA River.

Mr. Sharifan is well known for being innovative and creative in bringing the best solutions to complicated projects. One of his recent interesting projects is the Haven Avenue Grade Separation in the City of Rancho Cucamonga. When the City Officials expressed the desire of having a railroad bridge represent the gate to their community, he designed an attractive, unique, award-winning precast Arch railroad bridge. Shafi has Managed/Designed many Bridge projects and is an active member of AREMA Committee 9, responsible for developing seismic design criteria. Shafi has recently been involved in the preparing APS/Type Selection Report for three major crossings as part of the IDC Design/Build Team for the Phase II- Exposition LRT. The work includes two long-span steel through girder bridges and one 165' long precast concrete T-Girder Bridge for the LRT line.

Ken Berkman, PE -- Civil Lead

Ken Berkman will be the Civil Design Lead and Utility Coordinator for this project. As a former City Engineer and Deputy Public Works Director, Ken has outstanding organizational and leadership skills, and extensive experience working with public agency staff, City Councils, Commissions, and the general public. Ken's decade of experience in managing and delivering all phases of public works capital improvement projects and programs for Los Angeles County and a multitude of its cities, coupled with his utilities coordination experience, makes him perfectly suited to lead the civil design team in completing the scope of work. In addition to his public sector experience, Ken's years in the private sector have allowed him to develop an excellent, balanced approach to understanding a client's needs and the resources required to deliver projects on time and on budget, with a sharp focus on customer service. Furthermore, as a former Culver City employee from 1998-2004, he also brings a unique understanding of the community and a successful

track record of partnering with City of LA staff on several different types of Culver City projects, which will ensure the deliverables are completed successfully and as smoothly as possible.

Anissa Voyiatzes, PE – Civil Design

Anissa Voyiatzes will be the civil/roadway design engineer. Anissa's 17 years of civil engineering planning, design, program and project management experience for transportation and public works facilities is custom made for this project, as it includes roadway and bridge widenings and rehabilitations, streetscape designs, parkway improvements, and roadway extensions.

Matt Rowe, PE – Survey/Mapping

Matt Rowe has over 28 years of survey experience in the Southern California area. As the Land Surveying Lead, Matt will oversee the preparation of the survey base map for this project. His local knowledge and experience in working on similar projects makes him well suited to handle this assignment. He has prepared numerous design and street Right-of-Way surveys within the Culver City area over the years, including the Playa Vista development. This experience also includes providing similar services directly to the neighboring cities of Los Angeles, West Hollywood and Beverly Hills. Matt will make sure the necessary resources are available in order to meet the tight schedules anticipated for this project.

Richard Galvin - Environmental Study Lead

Rich Galvin, Vice President and Senior Project Manager of GPA Inc., has been managing the environmental process for projects in California since 1995. Rich brings a wealth of knowledge and skills to GPA's environmental group, which specializes in the environmental analysis of projects throughout the state. Before joining GPA, Rich worked at PMC Inc., where he was both the Los Angeles Office Manager and manager of the firm's transportation group. Rich also worked for the California Department of Transportation (District 7), where he was responsible for managing the environmental process for several major highway projects in the Los Angeles area. Rich's proactive and organized approach to projects and his understanding of the environmental process have gained him the respect of numerous clients, including public agencies and private engineering firms. Rich's experience includes acting as the environmental manager for several cities' Capital Improvement Programs, where he was responsible for overseeing all environmental documentation and permitting for transportation projects. Recently when the Environmental study of one the major LA City Bridge Project failed to receive appropriate approval, Rich was asked to lead the effort of securing the approval in a short time frame. Mr. Galvin has conducted training on the CEQA/NEPA process and the Regulatory Permitting Process.

Ben Hushmand, PhD., PE - Geotechnical Lead

Ben Hushmand has more than 25 years of experience in geotechnical and environmental research, testing, and applications, specializing in soil dynamics and analysis and design of soil-structure systems. He has managed and acted as lead engineer for numerous challenging public and private projects of the last two decades involving seismic hazards and geotechnical evaluations. These

investigations have included a large number of bridge design and construction projects for local, state, and federal government agencies such as a multi-year project for the US Defense Department to develop a database for load carrying capacity of more than 500 highway bridges and culverts in Western United States, several research projects on seismic design of bridges for Caltrans and Washington State Department of Transportation, and a number of bridge widening, replacement, and seismic retrofit projects for City of Los Angeles including Colfax, 4th Street and First Street Bridge over LA River, Port of Los Angeles, and OCTA. Dr. Hushmand has conducted a wide range of research projects in both earthquake and geotechnical engineering. He has worked on several projects studying the dynamic behavior of shallow foundations, piles, gravity base offshore platforms, dams, bridges, retaining walls, and liquefiable soils. He has specialized expertise related to experimental and computer modeling studies of the dynamic response of earth structures and foundations.

Xiaoyun Wu, PhD., PE - Structural Lead

Mrs. Wu has more than 30 years of experience in structural engineering on a wide variety of practice, including design, research, and teaching. Her specialty includes earthquake engineering, structure nonlinear behavior and ground motion. Dr. Wu has extensive experience in the design of a variety of significant projects including many toll bridges and other highway structures, Transit and grade separation structures, urban mass transit structures. Mrs. Wu just finish working on Type Selection Report for two steel bridges for the Exposition project. Recent experience include designing two long span concrete arch bridges over LA River, Bay Bridge, SR-57 widening, I-405 Widening and new Sand Canyon over I- 405. She is well known and respected by bridge design engineering community.

3.1 SUBCONSULTANTS

IDC will be joined by four well-qualified firms. First, IDC Consulting Engineers will be the lead designer for the bridge's widening with the unique experience that Mr. Sharifan and his staff have gained from similar works. **PSOMAS** will perform civil, surveying, mapping and right-of-way support service. **Hushmand Associates, Inc. (HAI)**, who has worked with IDC on many bridge projects will provide geotechnical support services. **GPA ENVIRONMENTAL**, a well respected environmental engineering firm, will prepare the required Study. We also have included **Rivertech, Inc.** who have worked on many river crossing bridge projects including the current work for the N. Spring Street over LA River. They will join our team in case we need their input for bridge replacement options. We will discuss the hydraulic impacts on the project in more detail in our approach to the project. These firms have each performed worked together on similar projects and will bring that experience to bear on this project.

PSOMAS | *Balancing the Natural and Built Environment*

PSOMAS is a leading consulting engineering firm serving clients in the transportation; Water/wastewater; construction management; and public, institutional, and private land development markets. Ranked as one of Engineering News Record (ENR) magazine's Top 100 Pure Design Firms in the United States, Psomas has a long-standing and robust presence in Los Angeles County that spans a period of more than 60 years. Headquartered in downtown Los Angeles, with two additional full-service regional offices located in Santa Clarita and Orange County, Psomas currently has over 500 employees, with expertise spread across the range of disciplines critical to public agency capital improvement projects. Their strong resource base will enable them to fulfill all project objectives with qualified professionals who have the expertise and experience that match the needs of each specific task.

GPA ENVIRONMENTAL

GPA Environmental is a certified Disadvantaged Business Enterprise (DBE), Woman Business Enterprise (WBE), Small Business Enterprise (SBE), and an Underutilized Disadvantaged Business Enterprise (UDBE), registered as a California Corporation that specializes in historic preservation and environmental consulting. GPA was founded in 2003 and has quickly developed a strong reputation for high quality studies, reports, and surveys. The GPA project team is familiar with general planning principles and has the most up-to-date training in the field of historic preservation and preservation planning, including state and federal cultural resources law, historic preservation incentives and architectural history as it relates to California history.

The type of work performed by GPA includes:

- NEPA/CEQA Documentation
- Professional Peer Review
- Regulatory Permitting
- Mitigation Monitoring
- Mills Act Applications
- Agency Coordination
- Federal Rehab. Tax Credit Applications
- Technical Analysis
- NEPA, CEQA, Section 106 Reports
- Preliminary Environmental Studies
- Construction Monitoring
- HABS/HAER Reports
- Historic Resource Surveys
- Historic Context Statements
- Public Outreach

Some of their specialized services include working on large infrastructure/CIP projects and structures and bridges. GPA's bridge experience is extensive and includes work on bridges

SECTION Three

Subconsultant/Quals

throughout California. Work specific to the City of Los Angeles includes Riverside Drive bridge, North Main Street bridge, I-405 Mulholland Drive overcrossing, Fourth & Lorena Street bridge, and the North Spring Street Viaduct Bridge.

Hushmand Associates, Inc.

HAI is a geotechnical, environmental, earthquake, materials testing and specialty inspection engineering firm with more than 20 years of successful project experience and a team of engineers, geologists and field and laboratory specialty technicians with unparalleled capabilities and experience in design and construction of major public works projects, transportation, industrial buildings, infrastructure, and commercial and residential developments involving conventional and specialty geotechnical and earthquake engineering.

HAI capabilities and experience cover the full range of geotechnical engineering aspects of seismic design and site-specific evaluations of seismically-induced geologic hazards, including ground shaking, ground rupture potential, slope instability, pore water pressure buildup and liquefaction potential, as well as related ground settlement, lateral spreading, and bearing capacity failure and mitigation measures. Both deterministic and probabilistic seismic hazard evaluations are routinely performed to provide our clients with the required information for making risk management decisions in compliance with applicable regulations and regulatory agencies.

HAI's field inspection personnel include a pool of soils technicians and specialty and public works inspectors in asphalt concrete, reinforced concrete, masonry, reinforcing steel, pre-stress/post-tension concrete and structural steel welding, in addition to soil observation and testing. HAI's capability in providing specialty geotechnical instrumentation, vibration monitoring, and dynamic testing services for new construction projects or retrofit of existing structures are unique in the industry.

RIVERTECH, INC

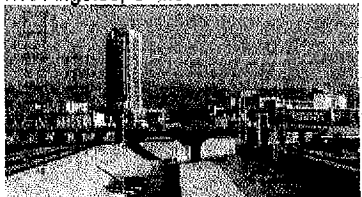
Rivertech Inc. is a professional engineering corporation providing services in urban runoff water quality control, river engineering, hydraulics, hydrology and sedimentation engineering. Since our establishment in 1983, Rivertech has consistently provided high quality service and insures superior quality by the close involvement of the principal engineers in all stages of project development.

The engineers of Rivertech have extensive experience, excellent qualifications and advanced degrees in hydraulics and hydrology. Their contributions as research specialists, instructors and consultants in engineering have been substantial and provide unique qualifications in water resources engineering. The engineers are supported by a highly trained technical staff, which insures prompt, accurate completion of Rivertech's projects within a specified budget and time.

SECTION Three

Relevant Experience

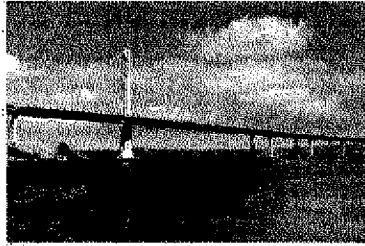
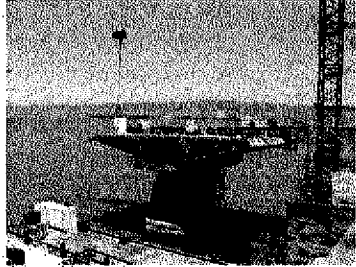
3.2 RELEVANT EXPERIENCE

Project Description	Description	Project Details	Personnel from Org Chart	Relevance
North Spring Street Bridge Over LA River, Los Angeles, California 	North Spring Bridge is a magnificent historical arch structure constructed in 1928. The bridge is 1200 feet long and 40 feet wide. The original structure was modified to accommodate 2 lanes in each direction. In order to meet the near future traffic demand, the City of Los Angeles is leading the effort of widening the structure on both sides to accommodate 6 lanes of traffic. The original structure was decorated by intriguing architectural detailing and unique railing. Widening the historical structure poses serious challenges. IDC worked with State Historical Preservation officials to reconstitute some of the original architectural treatments and details which was removed or altered by the past construction and developed a 3-D computer model depicting the existing structure and the new widening structure to study the behavior of the new and existing structures. There are 2 MetroLink tracks on each side of the river. The tracks are within 10 feet from the piers. There is not enough real estate to accommodate a shoofly on the west side of the river. IDC devised a precast pier system to allow constructing the piers sandwiched between the tracks in an 8 hour working window. The innovative idea saved over a million dollar in shoofly construction and shortened the construction period. The project also includes over 500 feet of retaining walls.	Date of completion: July 2012 Contract value: \$28 million Reference: Wann Chyn, PE City of Los Angeles (213) 923-3293 IDC PSOMAS GPA	♦ Shafi Sharifan ♦ Xiaoyun Wu ♦ Anissa Voylatzes ♦ Ken Berkman ♦ Rich Galvin	♦ Bridge Widening ♦ Geotechnical ♦ Hydraulics ♦ Utility Relocations ♦ Roadway Plans
1st Street Bridge Over LA River Los Angeles, California 	There are several historical arch bridges over LA River in the city of Los Angeles. The retrofitting and widening of these majestic structures pose serious challenges. These bridges were constructed before the Corps lined the river. The concrete spread footing adjacent to the river is buried under more than 30 feet of dirt. Busy rail traffic under the bridge on both sides of the river limits the construction access. IDC and a team of expert engineers have been working with the City of Los Angeles Engineering staff on the widening of this Bridge to accommodate two new LRT tracks for the GoldLine extension to East Los Angeles. Complex computer modeling was used to predict the behaviors of the existing structure and the new widened portion which is designed on the basis of the recent seismic design code. Working closely with the State Historical Preservation officials (SHPO), IDC Engineers were able to preserve the historical feature of the existing structure while designing the new widened portion in concert with the existing architectural theme.	Date of completion: March 2010 Contract value: \$43 Million Reference: John Koo, PE City of Los Angeles 213.675.8822 IDC HAI	♦ Shafi Sharifan ♦ Xiaoyun Wu ♦ Ben Hushmand	♦ Bridge Widening ♦ Geotechnical ♦ Hydraulics ♦ Utility Relocations ♦ Roadway Plans



SECTION Three

Relevant Experience

Project Description	Description	Project Details	Personnel from Org Chart	Relevance
San Francisco Oakland Bay Bridge, San Francisco,  	On October 17, 1989, when a 250-ton section of the upper deck of the East Span collapsed during the 7.1-magnitude Loma Prieta earthquake, the entire Bay Bridge was temporarily closed. After exhaustive study by seismic experts from around the world it was decided to replace the West Approach. Work on the West Approach, now in progress, involves completely demolishing existing structures and building new ones, one section at a time, as traffic continues to flow. Much of this work occurs within feet (or inches!) of residential and commercial buildings. The studies also revealed that rather than a retrofit, the two-mile East Span would be completely rebuilt. When completed in 2013, it will consist of several different sections, but will appear as a single, streamlined span. The East Span will feature the world's longest Self-Anchored Suspension Span (SAS), connected to a roadway on piers (Skyway), which will gradually slope down towards the Oakland shoreline (Oakland Touchdown). IDC engineers worked on the design of the West Approach structures while working for one of the structural design firms preparing PS&E. IDC was invited to join the team and continue their critical role during construction of this Signature Bridge Project.	Date of completion 2014 Contract value \$1.7 B Reference Caltrans Hasan El-Natur 916-207-6490 	♦ Shafi Sharifan ♦ Xiaoyun Wu	♦ Bridge Widening ♦ Geotechnical ♦ Hydraulics ♦ Utility Relocations ♦ Roadway Plans
SR - 57 Widening, OC, CA 	State Rout 57 (SR-57) is one of the major freeways connecting Orange County with the LA and San Bernardino County. In general the project proposes to add one northbound through lane for mixed-flow traffic. This project supported by OCTA and Caltrans District 12. The total expected cost of the project is \$68,000,000. IDC is responsible for developing PS&E package for three structures along the freeway. Lambert Road UC Widening: the existing bridge is single span 174' long. The superstructure consists of a multi-cell box girder 6' deep. The existing clearance is 14'-9" and there is no room for falsework. Therefore, the widening portion must be constructed at higher elevation and lowered into the permanent place. The design is complicated by the close end abutments which create challenging construction sequencing. IDC is preparing the Type Selection Report and 65% plans. Loftus Channel Culvert: the existing structure is 6-cell concrete box that is 60' wide. The widening will accommodate the Freeway off ramp to	Date of completion: 2013 Contract value: \$68 million Reference Information Thomas Ionta CH2MHill (949) 544-7054 	♦ Shafi Sharifan ♦ Xiaoyun Wu	♦ Bridge Widening ♦ Geotechnical ♦ Hydraulics ♦ Utility Relocations ♦ Roadway Plans



Higuera Street Over Ballona Creek Widening

SEC3 -13

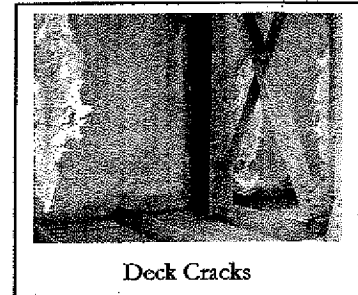
15

4.0 GENERAL APPROACH

The IDC Team would enthusiastically welcome the opportunity to work on this challenging project. We have already conducted a thorough field review and taken the initiative to develop conceptual exhibits for several alternatives and prepare a matrix summarizing the pros and cons of all alternatives (see Appendix). This preliminary work will allow the Team to get a jump start on the deliverables upon receipt of a Notice of Award.

4.1 EXISTING STRUCTURAL CONDITION

The structure is 74 years old and shows signs of decay. There are visible signs of settlement and horizontal movement on the expansion joints. The concrete deck has been cracked, allowing water to seep through. There are also signs of rust stains on the bottom of the deck. The bridge is not designed for the current loading and the cracks penetrating through the deck exposed the bottom reinforcement to weathering and rust. The As-Built plans showing two standard type abutments resting on piles (the Duquesne Bridge downstream is designed similar to Higuera and constructed per plan). However, there is no abutment constructed for the end spans. We believe that at some point the original



Deck Cracks

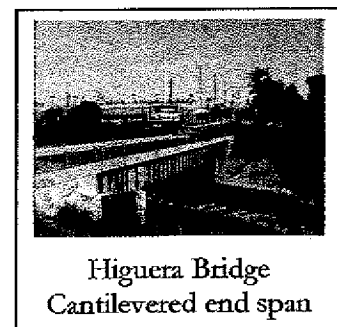


Duquesne Bridge
Similar to original design
of Higuera Bridge, Built Per Plans

design was modified and the narrower end span was eliminated. Instead, a much deeper beam matching the depth of the main span was used. This option seems to be more economical.

As a result of this change the tapered deep cantilevered beam is able to handle the loads and did not need any large abutment to sit on. So instead of wide and heavy abutments, a retaining wall was constructed with no seat for the cantilevered beam. This type of structure is not considered standard and would be susceptible to large deflections that would cause the concrete deck to crack at several locations along the bridge.

In order to restrain the structure from extensive movement during a seismic event, the retrofit engineer strengthened the stem of the retaining walls by widening it and providing shear keys to engage the retaining walls/abutments in both longitudinal and horizontal directions. However, the retrofit did not solve the inherent problem of the structure that vibrates extensively and causes the concrete deck to crack. The cracks will penetrate deep, reaching the bottom reinforcement, causing rust and decay. Widening the structure in kind and replacing the deck would not solve this problem. Additional retrofitting to change the behavior of the structure is required to remedy the long-term maintenance problem. We would welcome the opportunity to elaborate on these issues during the presentation/interview process.



Higuera Bridge
Cantilevered end span

4.2 BRIEF APPROACH

We have studied the As-Built and the retrofit plans, and gathered information and visited the site many times. Based on the Scope of Work outlined in RFP, we have identified two alternatives with several options for each. In consultation with City staff, we will finalize the list before starting the

actual work. A brief description of the two alternatives and several options that we will start with pros and cons of each one is tabulated below.

Alternative	Evaluation of Alternatives	
	Pros	Cons
BRIDGE REHAB		
North Side Widening	♦ Less impact on the River ♦ Faster construction period ♦ Better traffic management	♦ Road alignment skewed ♦ Higher ROW cost ♦ Greater utility impacts (power lines) ♦ Coordination with LADWP ♦ Higher future maintenance costs
South Side Widening	♦ Faster construction period ♦ Better traffic management	♦ Road alignment skewed ♦ Higher ROW cost ♦ Higher cost of protecting existing culvert ♦ Higher future maintenance costs
Dual-Side Widening	♦ Better road alignment ♦ Less ROW impact ♦ Less impact on the Culvert/River Hydraulics	♦ Longer construction period ♦ Complicated construction phasing ♦ Limited through traffic during construction ♦ Higher future maintenance costs
BRIDGE REPLACEMENT		
3-Span Bridge	♦ Better road alignment ♦ Less ROW impact ♦ Less impact on the Culvert/River Hydraulics ♦ Less future maintenance costs	♦ Longer construction period ♦ Street closure ♦ Unbalanced span arrangement
Single-Span Bridge	♦ Better road alignment ♦ Less ROW impact ♦ Less impact on the Culvert/River Hydraulics ♦ Less future maintenance costs ♦ Better aesthetics ♦ Better seismic performance	♦ Longer construction period ♦ Street closure ♦ Higher future maintenance costs

4.3 REHAB ALTERNATIVE:

Three alignment options are identified for the Rehab Alternatives. We will consult with the City in finalizing these options. The existing condition of the structure would be evaluated thoroughly and the extent of repair and retrofit will be identified. The limits and type of the new substructure and superstructure will be determined. It is important to design new structural elements in a fashion to help improve the behavior of the existing structure. We have used such cost saving approaches in our design of many bridge widenings and will consider it for the Higuera Bridge.

4.4 BRIDGE REPLACEMENT ALTERNATIVE:

As we mentioned earlier, the existing structure is not a conventional 3-span steel bridge. We believe it will not be difficult to convince Caltrans that perhaps the best option is to replace the bridge. The cost analysis of the rehab alternative that would include structural elements to modify the behavior of the existing structure would also lend credit to this argument. For replacement alternatives two options with different varieties would be considered. They would include:

Option I: 3-Span

- a) Maintain the same configuration and span arrangement
- b) Different span arrangement

Option II: Single-Span

- a) Cast in place
- b) Precast

We have developed concepts for each one of these options, which are included for your review in the Appendix. Upon receipt of a Notice to Proceed, we will advance these options and prepare a more detailed table with pros and cons and recommendations to assist the City to select preferred options for further study. Although it may seem that presenting numerous options is an unusually high level of effort at this stage, it should be noted that due to the vast and extensive bridge experience of our project manager and lead bridge engineer, it will not be too difficult to develop and evaluate different options and make recommendations to Caltrans in the City's best interest that will have an excellent chance of being approved.

Many of these options are developed and presented in the Appendix. In consultation with City staff, we will develop a table with different weights associated with each item based on their importance to evaluate the alternatives. We will assist the City in selecting the most economical and functional alternative and will develop the Type Selection Report (TSR) for the selected alternative.

4.5 SCOPE OF WORK:

IDC has developed the TSR for numerous projects. Our approach can be adjusted to the City requirements. We would conduct a kick-off meeting and establish the line of communication and the lead rolls. We will assist the City in establishing the Stakeholder list and contact information, as well as scheduling and conducting meetings. IDC will prepare meeting agendas, meeting minutes and record all action times as well as all the decisions. A brief description of different tasks as outlined in the RFP is presented herein:

Task 1 - Base Mapping & Conceptual Plan

1.1 - Update Project Information/ Data Collection: IDC Team will attend and conduct the kick-off meeting with the City to go over the project approach as well as design criteria, requirements, intents, scope, approach and procedures. We will obtain any as-built plans, and obtain information from Culver City and the County of Los Angeles Flood Control District, and any other documents that may be available from the Caltrans and the US Army Corps of Engineers.

1.2 - Site Reconnaissance: IDC team will visit the site to conduct a field review and compare, verify and record any discrepancies between the existing condition and the As-Built plans and other available information.

1.3 - Perform Design Data Survey: Spot surveys will be taken on the ground under the bridge and to locate critical design objects. A preliminary ROW survey will also be completed to identify the edges of properties adjoining to project site.

1.4 - Prepare Photogrammetric Map & Products for Design: Though the RFP requests 40 scale, we will provide a much more detailed 20 Scale Aerial Topographic Map along with a color Digital Orthophoto, with a 0.25 foot pixel resolution. Topographic base maps will be prepared by augmenting the aerial topographic map with utility, right-way, survey and drainage information



obtained as described above. The base map will be broken into sheets for use in preparing Geometric Approval Drawings and final plans.

1.5 - Perform Roadway & Misc. Design: We will determine the alternatives through coordination with the City regarding the need to widen the bridge, widen the roadway, improve intersections, etc. After selecting the preferred option for each alternative, we will prepare Preliminary Geometric Drawings for the two options. These plans would be used to develop the preliminary cost estimates and value analysis to help the City to select the preferred alternative. The plans for the selected alternative will be advanced to include proposed geometry and alignment data including typical sections, superelevations, and profiles. Other clarifying information, such as proposed right-of-way limits and approximate wall locations will be shown as required. The preliminary geometric drawings will be submitted for approval before proceeding with finalizing the TSR.

1.6 - Review Traffic & Hydrology and Hydraulic Data & Provide Design Guidance: The existing drainage conditions, the Ballona Creek Hydraulic Model, and the downstream Culvert adjacent to the existing bridge will be reviewed and potential impacts to the existing drainage facilities will be assessed for each proposed improvement alternatives. A preliminary cost estimate will be prepared to evaluate drainage costs for each alternative, including rehab/reconstruction costs for existing facilities or construction costs for required new drainage facilities.

1.7 - Review Existing Geotechnical Info & Provide Design Guidance: We will review site subsurface data from a recent seismic retrofit project for the bridge, and any other available data for nearby structures, the City, Caltrans, or published geologic maps to determine general subsurface conditions at the project site. We will review the available data prior to our field investigation to properly plan and incorporate this information in our field investigation. The groundwater table level will be evaluated through the information provided in available reports by the California Geological Survey (CGS), and State Department of Water Resources Publications. The collected information will be analyzed and utilized in our PFR.

1.8 - Prepare Conceptual Plans: The geometrics for selected alternatives will be developed considering lane configurations, storage requirements, signal timing, etc. Geometrics would be prepared in sufficient detail to establish constructability, determine the presence of any nonstandard design features, and to determine realistic construction cost estimates.

Deliverables: Data Collection Summary; Copy of all Utility Notification Letters; Utility Coordination Meeting Minutes; Utility Notification Matrix; Scale topographic base map, including aerial topo map; Draft and Final Geometric Concept Roadway Plans.

Task 2 - Bridge Core Sampling & Preliminary Field Investigations

2.1 - Bridge Core Sampling: IDC will collect concrete core samples at four locations. The locations will be identified by the project structural engineer and will include rebar samples that are located through non-destructive method. The concrete and steel samples will be tested to determine the integrity, strength, type of erosion and decay, deficiencies and remaining life span of the structural components.

2.2 - Geotechnical Field Investigation/Boring: We will mark the two boring locations and notify the City and the Underground Service Alert (USA) prior to beginning fieldwork so that public or private underground utilities can be identified. The borings would be at least 80' deep and will be backfilled with grout and cold asphalt patch at the ground surface where pavement exists. A professional traffic control crew will be provided during our field investigation. This proposal specifically excludes the assessment of environmental characteristics, particularly those involving

hazardous substances at the site. In the event that obviously suspicious subsurface materials are encountered visually or by odor in the test borings, such borings will be immediately terminated until we receive direction from the City staff.

2.3 - Laboratory Testing: We will conduct laboratory testing on the sampled soils in general accordance with applicable ASTM and/or Caltrans Standards to evaluate the engineering properties. This testing will include 1) moisture contents and dry densities, 2) Atterberg Limits, sieve, and hydrometer tests for soil classification, 3) Expansion Index on representative surficial soil samples to evaluate expansion potential, 4) Direct shear tests, 5) consolidation tests to evaluate the compressibility of the native soil for detailed settlement analysis, 6) corrosion tests for sulfate and chloride contents, pH, and soil resistivity and 7) other tests to aid in our analysis of liquefaction potential and other geotechnically related items. To minimize laboratory costs, we will use the information available in our file.

2.4 - Preliminary Bridge Foundation Report & Log of Test Borings (LOTB): IDC will provide geotechnical information including subsurface conditions, site geologic and seismic hazards, design ground motion parameters, and preliminary foundation type recommendations for the bridge structure replacement/rehabilitation as required. We will prepare a Preliminary Bridge Foundation Report to present our findings, conclusions, and preliminary geotechnical design parameters for the subject bridge project. The report will include the LOTB, per Caltrans requirements, summarizing subsurface conditions encountered, results of laboratory testing, and a plan indicating the location of borings.

Deliverables: Preliminary Foundation Report, LOTB plan, Laboratory Testing Report

Task 3 - Type Selection & Seismic Retrofit Strategy

3.1 - Study Bridge Widening Alternatives: IDC team will study at least three roadway Geometric options for widening alternatives. For each option, different structural types will be considered (see sample concepts in Appendix). The options will include widening in kind or using different material such as cast in place or precast concrete superstructure.

3.2 - Superstructure Strengthening Strategy: IDC will analyze the existing bridge and will perform preliminary engineering to address all deficiencies of the existing structure. We will prepare recommendation for repairing/replacing portion or entire bridge deck, modify the superstructure and prevent cracking of the deck, eliminate excessive vibration, and strengthening of the existing substructure.

3.3 - Seismic Analysis of the Existing Structure: IDC will evaluate the retrofit strategy and the retrofit work performed in 1998. We will identify additional work that would be needed to bring the existing bridge into compliance with the new seismic code. We will also utilize the strength of the new widening portion to minimize or eliminate the need for additional seismic retrofit for the existing structure.

3.4 - Study Bridge Replacement Alternative: IDC will develop conceptual plans for replacing the bridge. The options will include the followings:

1. Replacing the Superstructure only: extending the existing substructure (provided it is in good condition) and replacing the superstructure only.

.....

2. Demolish the existing bridge and build a new bridge: alternatives such as 3-span or single-span with different span arrangements will be studied.

3.5 - Develop Preliminary Design: IDC will perform preliminary engineering to determine the type, size and shape of all structural elements. A matrix of the pros and cons of each alternative will be prepared to assist the City in selection of the preferred alternative.

3.6 - Prepare Preliminary Plan Sheets: IDC will prepare conceptual plans for different alternatives. The plans will include Plan view, Elevation view and typical Section of the bridge. Also we will provide construction notes and sequential steps for constructing the structure.

3.7 - Develop Preliminary Quantities & Cost Estimate: Following the preparation of the bridge plans, construction quantity takeoffs and preliminary cost estimate for the structure will be prepared per Caltrans standard cost estimate form and requirements. These estimates will be itemized by individual items, lump sums or unit quantities, and unit prices, as necessary.

3.8 - Bridge Widening TSR/Retrofit or Replacement Strategy: IDC will provide Bridge General Plan for selected alternative for the Higuera Bridge widening over Ballona Creek. The General Plan will provide a project overview including the limits of work, construction staging, plan view, elevation view, and structural section. The design will be based on the approved roadway geometrics. The general plan will contain the beginning and ending station of the new bridge, geometry and shape of the proposed substructure and superstructures, foundations, retaining walls and wingwalls and the barrier rails on the bridge.

We will attend a structure type selection / seismic retrofit strategy meeting to be held at Caltrans District 7 or at the City. IDC will present the design, preliminary seismic design analysis and preliminary design of columns and foundations to the Caltrans engineers.

Deliverable: Bridge Widening General Plans & Type Selection Report; Type Selection/Strategy Meeting & Approval; Documentation for revising the Scope of work for Bridge Replacement.

Task 4 - Project Management, Project Admin, QA/QC

4.1 - Project Management: A Management Plan will be developed which incorporates the work outlined by this technical scope of services. This Plan will specify products and portions thereof. We will conduct progress meetings on a bi-weekly basis with City staff and subconsultants. The progress meetings will encompass discussions concerning schedule, progress and cost issues for the previous period and for the coming period. The IDC Team will provide agendas and minutes.

IDC will develop a schedule for the project depicting different task and subtasks. The Plan and schedule will be updated monthly and will reflect the progress and budget spend to date.

4.2 - Project Administration: Following are administrative duties which shall be performed by IDC:

- Supervise subcontractors and staff, coordinate and monitor work for conformance with Caltrans/City standards and policies.
- Prepare, circulate, and file correspondence and memoranda as appropriate.
- Review Subconsultant Invoices and prepare monthly invoice and progress report.
- Maintain Project files using the Caltrans Uniform File System.

4.3 - Quality Control/Quality Assurance (QA/QC): Our QA/QC Plan shall meet the intent of the City QA/QC Plan. The IDC Team has responsibility for the accuracy and completeness of the



reports, plans, and related documents furnished under this scope of work and shall meet that responsibility through the preparation and implementation of a Design Quality Control/Quality Assurance Plan. IDC will review work prepared by our subconsultant partners for inclusion in the plans. The Quality Assurance Manager will implement the Design Quality Assurance Plan to assure that the Design Quality Control work is followed for all work products.

Task 5- Bike Ramp Concept Design and Cost Estimate

The IDC Team will prepare the Concept Plan and preliminary cost estimate for the bike ramps connecting the Higuera Road roadway to the existing bike path along the west side of Ballona Creek.

Deliverables: Draft and Final Concept Plans for the bike ramp, including retaining wall plan and profile, Draft and Final Preliminary Cost Estimates, Site Conflicts Report

Task 6 – Air Quality Report and Natural Environmental Study Report

6.1 - Natural Environment Study Report: Botanical information for the project vicinity will be reviewed including the biological resources sections for other parts of project area. The California Natural Diversity Data Base (CNDDB) and U.S Fish and Wildlife Service species list will also be reviewed to determine the potential for special-status resources to occur in the project area.

6.2 - Site Investigations: IDC Team biologists will conduct a survey of the project area to map the vegetation communities and compile an inventory of botanical and wildlife resources in the project area. The biologist will also survey the project area and conduct special-status plant surveys if necessary, depending on CNDDB results and the occurrence of potential habitat. The results will be detailed into the Natural Environment Study per Caltrans Guidelines (SER). The proposed scope does not include a wetland delineation or section 7 consultation.

6.3 - Air Quality Report: IDC will contact Caltrans Local Assistance staff to determine the requirements and parameters to be included in the AQSR. In the event that interagency consultation (IAC) for project-level PM conformity has not yet been completed for the proposed project, IDC will prepare the IAC form. The AQSR will be submitted to Caltrans staff for review and any necessary revisions recommended by Caltrans staff will be incorporated into the report.

Deliverable: Approved Natural Environment Study Report & Air Quality Report

Task 7 – Material Testing

IDC will prepare a plan for performing additional field investigation and material testing to determine the validity of retrofitting the existing structure. The scope will include additional 4 field coring/Sampling and laboratory testing.

Deliverable: Additional field sampling and testing results and report to incorporate in Laboratory Testing Report

SECTION Six

Fee Estimate

Higuera Bridge Over Ballona Creek Widening Project				Contract No. :									
1		TASK DESCRIPTION: Phase I - Bridge Type Selection Report				Reviewed By:							
EA NO:						PREPARED BY: SMS		DATE: 1/30/2011					
WBS NO.	SUB-TASK DESCRIPTION	Total Hours	LABOR HOURS										
			Project Manager	Project Engineer	Sr. Engineer	Engineer	CAD Technician						
185	Task 1 - Base Mapping & Conceptual Plan	0											
185.05.10	Update Project Information/ Data Collection	4	4										
185.05.15	Site Reconnaissance	16	8	8									
185.10.10	Prepare Photogrammetric Map & Products for Design	6	2	4									
185.10.15	Perform Design Data Survey	2	2										
185.15	Perform Preliminary Design	0											
18.15.05	Perform Roadway & Misc. Design	6	2	4									
18.20.05	Review Traffic & hydrology and Hydraulic Data & provide design guidance	12	4	8									
18.20.15	Review Existing Geo info. & provide Design guidance	8	4	4									
185.20.25	Prepare Conceptual Plans	18	2	16									
210	Task 2 - Bridge Core Sampling & Prelim. Geo Field Invest.	0											
210.10.05	Bridge Core Sampling	2	2										
210.10.10	Geotechnical Field Investigation	2	2										
210.10.15	Laboratory Testing	2	2										
210.10.20	Preliminary Bridge Foundation Report & LOTB	10	2	8									
		0											
215	Task 3 - Type Selection & Seismic Retrofit Strategy	0											
215.05.05	Study Bridge Widening Alternatives	26	2	20	4								
215.05.10	Superstructure Strengthening Strategy	32	4	18	12								
215.05.15	Seismic Analysis of The Existing Structure	92	2	40	30	20							
215.05.20	Study Bridge Replacement Alternative	30	2	16	12								
215.10.05	Develop Preliminary Design	82	2	40	30	10							
215.10.10	Prepare Preliminary Plan Sheets	70	2	8			60						
215.10.15	Develop Preliminary Quantities & Cost Estimate	18	2			16							
215.90.00	Prepare Structure General Plan For Bridge Widening	34	2	8			24						
215.90.05	Prepare Structure General Plan For Bridge Replacement	34	2	8			24						
215.90.08	Bridge Widening TSR/Retrofit or Replacement Strategy	14	2	12									
215.90.10	Type Selection/Strategy Meeting & Approval	6	2	4									
100.00	Task 4 - Project Management												
100.10.10	Project Management	32	32										
100.10.15	Meetings/City & Stake Holders	56	40	16									
100.10.20	Project Schedule	10	2	8									
100.10.25	Project Admin	8	8										
100.10.30	QA/QC	28	4	24									
		0											
TOTAL LABOR HOURS		680	146	272	88	46	108	0	0	0	0	0	0
RAW RATE (\$/HR)			\$80.00	\$80.00	\$50.00	\$34.00	\$34.00						
LABOR COSTS (\$)			\$11,680	\$21,760	\$4,400	\$1,564	\$3,672	\$0	\$0	\$0	\$0	\$0	\$0
EXPENSES													
ITEM(S)		Unit of Measure	QUANTITY	UNIT PRICE	TOTAL PRICE	COMMENTS/ASSUMPTIONS: 1)							
Printing and Reproduction		Each	20	\$20.00	\$400.00								
Computer		Hour		\$0.00	\$0.00								
Vehicle Expenses					\$0.00								
Mileage		Miles	600	\$0.51	\$306.00								
Ground Transportation (Train/Cab)		Each		\$0.00	\$0.00								
Auto Parking		Each		\$15.00	\$0.00								
Delivery Services		Each	20	\$20.00	\$400.00								
Communications		Each		\$100.00	\$0.00								
Air Travel		Each		\$260.00	\$0.00								
Travel and Per-Diem Costs		Each		\$25.00	\$0.00								
					\$0.00	OVERHEAD @ 1.11 , PROFIT @ 10% \$99,979 Total Hours 680							
					\$0.00								
TOTAL EXPENSES:				\$1,106	FIRM'S TOTAL DIRECT EXPENSES \$1,106								
SUB-CONTRACTORS:					SUBCONSULTANT 5% \$77,064								
FIRM:	PSOMAS	LLAI	GPA	RIVERTEC		TOTAL ESTIMATED COST \$178,149							
AMOUNT:	\$48,780	\$24,614	\$0	\$0	\$0	\$0	\$0	YEARLY ESCALATION TO MID-YEAR C0					

Higuera Bridge Over Ballona Creek Widening Project				Contract No. :										
1		TASK DESCRIPTION: Phase I - Optional Services				Reviewed By:								
EA NO:						PREPARED BY: SMS		DATE: 1/30/2011						
WBS NO.	SUB-TASK DESCRIPTION	Total Hours	LABOR HOURS											
			Project Manager	Project Engineer	Sr. Engineer	Engineer	CAD Technician							
		Role												
215	Task 5 - Bike Ramp Concept & Cost Estimate	0												
215.05.05	Study Bike Lane Ramp Alternatives	4	4											
215.05.10	Prepare Bike Lane Ramp Conceptual Plan	4	4											
		0												
165.00	Task 6 - Air Quality Report & Natural Environmental SR	0												
165.10.30	Prepare Air Quality Study Report	4	4											
165.15.20	Prepare Natural Environmental Study Report	4	4											
		0												
210	Task 7 - Material Testing	0												
210.10.30	Field Coring / sample	4	4											
210.10.35	Laboratory testing & report	4	4											
		0												
		0												
TOTAL LABOR HOURS		24	24	0	0	0	0	0	0	0	0	0	0	0
RAW RATE (\$/HR)			\$90.00											
LABOR COSTS (\$)			\$1,920	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
EXPENSES														
ITEM(S)		Unit of Measure	QUANTITY	UNIT PRICE	TOTAL PRICE	COMMENTS/ASSUMPTIONS: 1)								
Printing and Reproduction		Each	2	\$20.00	\$40.00									
Computer		Hour		\$0.00	\$0.00									
Vehicle Expenses					\$0.00									
Mileage		Miles	200	\$0.51	\$102.00									
Ground Transportation (Train/Cab)		Each		\$0.00	\$0.00									
Auto Parking		Each		\$15.00	\$0.00									
Delivery Services		Each	5	\$20.00	\$100.00									
Communications		Each		\$100.00	\$0.00									
Air Travel		Each		\$260.00	\$0.00									
Travel and Per-Diem Costs		Each		\$25.00	\$0.00									
				\$0.00	\$0.00									
				\$0.00	\$0.00									
TOTAL EXPENSES:					\$242									
SUB CONTRACTORS:														
FIRM:	PSOMAS		GPA	RIVERTEC	Smith Emery Testing									
AMOUNT:	\$14,876		\$21,006	\$0	\$0	\$13,000	\$0							
					DIRECT LAB 1.11 , PROFIT @ 10%					\$4,456				
					FIRM'S TOTAL DIRECT EXPENSES					\$242				
					SUBCONSULTANT 5%					\$51,325				
					TOTAL ESTIMATED COST					\$56,024				
					YEARLY ESCALATION TO MID-YEAR 0.0									

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