

# CAREER PROFILE OF CHAIRMAN California (Lic. #57043) & Alaska (Lic #10025) Professional Civil Engineer



## National Economic Development

### Diversified Risk Managed Asset Classes

Toll Roads / Transportation / Heavy Civil Infrastructure / Seaports / Airports / Logistics  
Renewables / Energy / Refineries / Water / Waste / Natural Resources / Mining /  
Agriculture & Food Security / Education / Healthcare / Aviation and Aerospace  
Commercial and Residential Real Estate / Tourism / Media / Software / Security

## FOUNDER, CHAIRMAN and CEO



## Thomas J. Young, PE

### Project Role:

- Ensure profitable operations
- Visionary, Chief Integrator, Chief Executive
- Risk Management & Asset Management
- Program Manager, Oversight (On-Time/On-Budget & Hitting Revenue Targets)

### Corporate Role:

- ✓ Get the right key people in the right seat
- ✓ Implement quality systems (Governance, Operations, Strategy)
- ✓ Delegate as required to upscale safe and profitable operations
- ✓ Build quality international relationships with respected leaders in industry and government

Mr. Young is a proactive leader with over 37-years global experience in both strategic and granular roles in high-risk aviation, transportation infrastructure, logistics, security, military, engineering and construction programs. He is an Examiner for the most prestigious quality program in the USA, the National Baldrige Quality Program.

Mr. Young envisioned and negotiated comprehensive nationwide 50-year concessions for the development of a nation's heavy civil infrastructure in West Africa. He is a licensed Professional Engineer (PE) in California (PE #57043) and Alaska (PE #10025). He has both seismic (earthquake) and Arctic (cold weather) expertise. Note that cold weather techniques can also be utilized in tropic climates to stabilize temporary construction earthworks.

He is a skilled integrator of the parameters of program and project life cycles, leadership, management, business operations, engineering and construction. Mr. Young is knowledgeable of regulatory compliance, environmental processes, industry standards, best practices, and field operations in urban and remote areas. His geographic experience spans deserts, temperate climates, tropics and Arctic regions. He sets the strategic objectives and leads CivTek's global operations.

- ✓ **Mr. Young is responsible for all aspects of envisioning, launching, leading, monetizing/ financing, negotiating, developing, engineering, construction, operations and P&L of several hundred billion dollars USD in current programs (refineries, toll roads, mining, logistics, healthcare, education, aviation, financing, media ventures, urban development, water, transportation, etc...).**

### SPECIAL OBJECTIVES AWARDS & RECOGNITIONS

**Facilitate  
Development of \$20  
Trillion GDP for  
Africa:**

### GUINEA

- ✓ Holder of 50-year comprehensive national concessions for economic development of Guinea
- ✓ Numerous African and Asian Countries have requested CivTek
- *Examiner for the most prestigious quality program in the United States, the Baldrige Quality Award*
- *Nominated as featured knowledge leader on nationally syndicated documentary series for PBS discussing leading topics in civil infrastructure.*

***"Recognized by California courts and legal community as an expert in highway and heavy civil infrastructure."***



April 14, 2021



**CIVTEK INTERNATIONAL CORPORATION**  
**THOMAS J. YOUNG, PE**

## INTRODUCTION

Mr. Young's career spans military aviation, logistics and security operations in global strategic airlift. His career also encompasses professional civil engineering and project management. He has education, knowledge, know-how, and experience as a professional civil engineer across the entire asset life-cycle of heavy civil infrastructure and in particular, the Caltrans system within California. He is also responsible for delivering more than \$100 billion in infrastructure in Africa.

## EXPERTISE - EDUCATION - PROFESSIONAL LICENSING

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### Education

**Bachelor of Science Degree, Civil Engineering**

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### Professional Licensing

**California PE No. 57043 & Alaska PE No. 10025**

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### Transportation Construction - Civil Engineering Expertise

**Transportation Construction** describes the civil engineering specialty regarding highways, bridges, rail, airports, harbors and associated infrastructure. This area of expertise encompasses knowledge and experience in multiple phases of project delivery and operations in Planning, Environmental Studies, Design, Right-of-Way Activities, Construction, and Operations and Maintenance. Issues addressed in litigation include estimating, scheduling, productivity, cost overruns, structural failures, construction work zone accidents, construction safety (OSHA), temporary structures, design code violations, construction defects, failure analysis, hydraulic and drainage, ADA violations, inspections, traffic safety and accidents, signage and human factors of driving and construction. It requires knowledge of government policies, procedures, project development, design, and construction standards and methodologies; plus knowledge of human factors. Transportation Construction

involves the planning, financing, development, design, surveying, construction, safety and operations and maintenance of highways, roadways, bridges, tunnels, storm sewer, and utilities.

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### Human Factors Expertise

**Human factors** are evaluated with every civil engineering assignment involving roads, traffic, and construction.

Civil engineering training and experience specifically relevant to Human Factors in this matter:

- Formal university courses in advanced quantitative engineering physics of optics
- Conspicuity (Visibility) and safety in traffic
- Driver perception of road hazards
- Driver expectations and behavior at intersections
- Driver reactions to perceived hazards of roadway geometry

Additional human factors expertise stems from extensive military experience and professional military education as a globally deployed combat aircrew member engaged in numerous real world missions in the United States Air Force. In particular relevance are conspicuity (visibility) and camouflage, visual acuity, eye structure [color (cones)] perception, black and white (rods) perception, color contrast, motion, and how the eyes perform and react to different lighting conditions. Daily operations and survival depended on mastery of this expertise taught in professional military education schools as well as annual unit training and currency testing. Human factors, physiology of flight and combat operations were formally taught during physiologic training and combat ground training. Refresher training each year was mandatory. Failure in real world operations could result in death.

Military training and experience specifically relevant to this matter:

- Structure of the eye
- Visual acuity
- Camouflage versus Conspicuity (Visibility)

### *U.S. Air Force - Global Aviation Operations And Strategic Airlift - Combat Aircrew, Loadmaster*

Amassed over 2000 flight hours. Flew standard channel resupply and global contingency missions to Far East, Central and South America, Africa, Europe and the Middle East. Utilized structural, mechanical, and electrical engineering judgment to ensure life safety of aircraft by calculating the center-of-gravity of cargo and the aircraft, calculating the correct cargo restraint and tie down and performing pre and post flight inspections of aircraft electrical, structural, and mechanical systems. Performed construction foreman and engineering technician type duties by directing the loading and offloading of aircraft. Developed and/or reviewed and approved cargo load plans to ensure correct display of placards per Department of Transportation (DOT) and deconfliction of incompatible hazardous materials. Types of cargo included large missiles, solid rocket propellants, explosives, armored vehicles, helicopters, cannons, trucks, fire trucks, heavy construction equipment and miscellaneous hazardous materials, explosives, arms, and combat personnel. **Failure to perform correctly could have resulted in loss of aircraft, loss of life and loss of mission.** Received extensive training and experience in aircrew and emergency management and leadership. Received specialized training in and was designated as an ENAF (emergency nuclear airlift forces) crew member. Authorized to carry concealed weapons. Received combat small arms, survival, escape and evasion and training in other skill sets necessary to survive in combat behind enemy lines.

### *Alce – Airlift Control Element*

Served duties as a NCO in Classified ALCE Contingency Operations. Deployed to austere airfields, trained foreign personnel and set up all airfield, maintenance, security and logistics operations from scratch. Apart from a few changes in acronyms and U.S. Agencies, the mission during Mr. Young's service of the 1980's was similar to the modern description below.

Airlift Control Flight (ALCF) personnel are formally trained and operationally certified in the oversight of the total air mobility process which includes: AMC C3 (Command, Control, and Communications) Systems and Reporting, TACC Mission Coordination, Air Operations

Planning and Execution, Load Planning and Equipment Preparation, Aerial Port Operations, Aircraft Maintenance, Joint / Civil Command Relationships, and Airlift User / Affiliate Coordination.

The ALCF deployable components are known as Airlift Control Elements (ALCE) which are similar to USAF / Air Mobility Command – Contingency Response Elements (CRE). ALCEs are scalable to meet the requirements of the supported commander. ALCFs are maintained in a 36 hour maximum alert response status and are able to deploy and operate at “Austere” locations around the world.

As organizations involved with inherently joint airlift operations, ALCFs support “Affiliates” with formal training in preparation for deployment via airlift as well as train with affiliates in joint command and control processes at locations with minimal DoD / Civil infrastructure. AFRC ALCF affiliates include: Reserve Forces from USA, USN, USMC, and USCG as well as civil responders under DOJ, DHS, and USAID.

Here are the kinds of airlift operations ALCEs are used to support:

- Passenger and Cargo Movement – Focused on en-route and/or austere environments
- Combat Employment and Sustainment – Landing Zone / Drop Zone operations
- Aeromedical Evacuation – Integrating Airlift/OPS with AE
- Special Operations Support – Liaison / agile C3 support
- Operational Support Airlift – Light aircraft operations

## FORENSIC EXPERT WITNESSING HISTORY

My forensic expert witnessing experience started in the 1990's supporting Caltrans legal office answering interrogatories for contract disputes. In private practice, my expert witness experience started in 2003. All prior matters have been civil cases. Retaining attorneys have represented an equal mix of public and private clients as well as plaintiffs and defendants.



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**International**

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[TYoung@CivTek.com](mailto:TYoung@CivTek.com)

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 Alaska PE License No. 10025

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### **Curriculum Vitae**

**Thomas J. Young, P.E.**

**CivTek International Corporation**

*Engineering Project Management & Multi-Disciplined Design*

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<https://www.civtek.com>



**Entrepreneur – Economist – Humanitarian**

**Visionary Leader – Professional Engineer**

**Speaker – Expert Witness/Forensic Expert**

**Founding Chairman & CEO**

*Heavy Civil Infrastructure Expert*

*Engineering/Construction Project Management*

*International Project Ownership & Development*

*Security/Risk Management/Global Corporate Operations*

Thomas Young, PE, founding CEO and Chairman of CivTek International, has 36 years global experience in high-risk programs. **He was a 2013 examiner for the most prestigious quality program in the USA, the *National Baldrige Quality Program*.** “In 2012, the Baldrige Program’s training offerings ranked 8th in *Leadership Excellence's Leadership 500* (military/government category), just below the training for the U.S. Naval Academy, U.S. Military Academy West Point, and FBI Academy.”

***Baldrige Training Programs Honored Among Best ... in Human Resources, Leadership, and Organizational Development***

<https://www.nist.gov/news-events/news/2017/02/baldrige-training-programs-honored-among-best-continuing-education-human>

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### Project Role:

- In responsible charge for all aspects of complex national and urban redevelopment and heavy civil infrastructure projects
- Ensure profitable operations
- Visionary, Chief Integrator, Chief Executive
- Risk Management & Asset Management
- Program Manager, Oversight (On-Time/OnBudget & Hitting Revenue Targets)

### Corporate Role:

- ✓ Get the right key people in the right seat
- ✓ Implement quality systems (Governance, Operations, Strategy)
- ✓ Delegate as required to upscale safe and profitable operations
- ✓ Build quality international relationships with respected leaders in industry and government

He leads multi-disciplinary engineering and construction project management, economic planning for emerging markets, consumer businesses, media, business consulting and corporate leadership for security, aviation, energy, transportation, logistics, commercial/residential development projects, design, surveying/mapping and construction.

Mr. Young is a proactive leader with knowledge, know-how, and experience in both strategic and granular roles in high-risk aviation, transportation infrastructure, logistics, security, military, engineering and construction programs. He envisioned and negotiated comprehensive nationwide 50-year concessions for the development of a nation's Heavy Civil Infrastructure in West Africa.

He is a licensed Professional Engineer (PE) in California (#57043) and Alaska (#10025). He has both seismic (earthquake) and Arctic (cold weather) expertise.

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Mr. Young is a skilled integrator of the parameters of program and project life cycles, leadership, management, business operations, engineering and construction. Mr. Young is knowledgeable of regulatory compliance, environmental processes, industry standards, best practices, and field operations in urban and remote areas. His geographic experience spans deserts, temperate climates, tropics and Arctic regions. He sets the strategic objectives and leads CivTek's global operations. Mr. Young is responsible for all aspects of envisioning, launching, leading, monetizing/financing, negotiating, developing, engineering, construction, operations and P&L of several hundred billion dollars, USD, in current programs (urban redevelopment, roads, mining, logistics, healthcare, education, airports, financing, media ventures, water, transportation, seaports, airlines, data centers, etc ... ).

Mr. Young's company, as owner/developer/project integrator, provides engineering & construction project management and multi-disciplined leadership in civil, drainage, structural and geotechnical engineering for public works, land development, industrial facilities, land surveying and mapping. Projects involve commercial/private land development, bridges, hydrology, hydraulics, pavement, geotechnical, drainage, bridge, highway related matters, particularly Caltrans and (large projects); international aviation, marine terminals, energy, water, logistics, urban redevelopment, transportation, land use and economic development. CivTek holds responsibility to design/build/operate all aspects of national energy and heavy civil infrastructure programs encompassing urban renewal, highways, railroads, seaports, and airports.

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### CALTRANS / TRANSPORTATION EXPERTISE PROFILE

Project management and corporate leadership for project development, design, surveying and construction oversight exceeding several billion in construction costs. Leads multi-disciplinary teams solving urban transportation problems including complex interchange design, corridor planning studies, project reports, and capital maintenance projects. Completed 34 bridge structure designs, seismic retrofits, and special studies, including large cut and cover tunnels and numerous other complex structures for the \$700 million design/build Eastern Transportation Corridor toll roads in Orange County, California. Bridge construction oversight on \$1 billion Cypress Corridor reconstruction in Oakland, California. \$10 million Sunrise/Highway 50, and \$40-\$50 million Douglas/Interstate 80 Interchange and Corridor designs in Sacramento, California. Performed broad ranging bridge and highway project development duties in Caltrans Districts 1-5, 7, 10-12. Skilled integrator of the parameters of program and project life cycle. Knowledgeable of Federal program compliance and environmental processes.

For specific experience in Program Management, Construction Management, Drainage Design, Highway Design, Specifications, Quality Assurance/Quality Control (QA/QC), Survey, and Structure Design, see **Project Experience**.

### EDUCATION

B.S. Civil Engineering, California State University-Sacramento, 1993

### LICENSURE

Professional Civil Engineer, CA #57043

Professional Civil Engineer, AK #10025

State of California Government Professional Board of Registration Weblink:

[http://www2.dca.ca.gov/pls/wllpub/WLLQRYNA\\$LCEV2.QueryView?P\\_LICENSE\\_NUMBER=57043&P\\_LTE\\_ID=741](http://www2.dca.ca.gov/pls/wllpub/WLLQRYNA$LCEV2.QueryView?P_LICENSE_NUMBER=57043&P_LTE_ID=741)

State of Alaska Government Professional Board of Registration Weblink:

<https://www.commerce.alaska.gov/CBP/Main/Search/ProfessionalDetail/AELC10025>

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## PROFESSIONAL CONTINUING EDUCATION

Specialized engineering applications: Caltrans, Geotechnical, Management, Arctic Engineering

### SPECIALIZED PROGRAMS, PROJECTS & TRAINING

- CEO Space, 2014
- Power Team International, Speakers Camp
- BALDRIGE NATIONAL QUALITY AWARD, U.S. NATIONAL EXAMINER TRAINING, 2013
- E-MYTH: Year-Long Mastery Business Systems & Operations
- Stormwater Best Management Practices, California State University, Sacramento, 2005
- DAR Engineering Hydraulic Design, Roseville, CA, 1996, 2002
- Program Management/Public Policy Development, State of Alaska Privatization Task Force, 1999
- National Highway Institute Drilled Shaft Foundations, 1999
- Arctic Engineering, 1999
- Alaska DOT-sponsored NHI Course No. 13212, Soils and Foundations, 1999
- Caltrans – Leader and Organizer of the first annual Program/Project Management Seminar for Design North Division, 1998
- Caltrans Project Engineers Academy, 1998
- Design/Build Eastern Transportation Corridor Seismic Design Criteria Seminar, 1995
- Caltrans Bridge Falsework Seminar, 1994
- Caltrans Construction Oversight Course, 1994
- HazMat 40-hour Course, 1994
- Caltrans Seismic Research Oversight, UC San Diego Bayshore Viaduct, San Francisco, 1992-1993
- Caltrans Drilled Shaft Foundation Testing, Terminal Separation, San Francisco,

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1992-1993

- Founding President of the CSUS student chapter of the Structural Engineers Association of Central California (SEAOCC), 1990
- While a civil engineering student at CSUS, concurrently employed by the California Department of Transportation with the Office of Structures Design. Even though in an entry-level position, Air Force aircraft structural and leadership experience and judgment gained through contingency operations enabled me to perform at a licensed professional engineering level. Completed several bridge seismic retrofit designs, assisted earthquake investigation teams, assisted senior engineers and performed special oversight analysis of seismic research programs. Mr. Young received letters of recommendation for these accomplishments.
- U.S. Air Force Aircrew, Aviation Management, and Leadership 1983-1989

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## EXPERIENCE

### **CivTek Corporation, 1997-Present**

Founding President, CEO & Chief Engineer

CivTek provides engineering project management and multi-disciplined design in civil, structural and geotechnical engineering for large projects in public works, land development, industrial facilities and land surveying. Programs and projects involve bridges, hydrology, hydraulics, geotechnical, drainage, highway related matters, particularly Caltrans and Department of Transportation (DOT) standards, Federal Highway Administration (FHWA) or American Association of State Highway Transportation Officials (AASHTO) standards, and land development issues. Also performs forensic engineering and provides expert witness testimony.

For a project example, see Skyborne Development (\$1 billion development project) under **Surveying in Project Experience**.

### **Caltrans, 1997-1999**

Transportation Engineer

### **Dokken Engineering, 1995-1997**

Associate Engineer: Bridge, Highway, Drainage, Construction Support

### **Caltrans, 1992-1995**

Transportation Engineer, Bridge Construction Management, 1994-1995

Bridge Engineer, 1992-1993

### **U.S. Air Force, 1983-1989**

Combat Aircrew, Non-Commissioned-Officer (NCO), SSGT, Loadmaster

Amassed over 2000 flight hours. Flew standard channel resupply and global contingency missions to Far East, Central and South America, Africa, Europe and the Middle East. Utilized structural, mechanical, and electrical engineering technician and engineering type judgment to ensure life safety of aircraft by calculating the center-of-

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gravity of cargo and the aircraft, calculating the correct cargo restraint and tie down and performing pre and post flight inspections of aircraft electrical, structural, and mechanical systems. Performed construction foreman and engineering technician type duties by directing the loading and offloading of aircraft. Developed and/or reviewed and approved cargo load plans to ensure correct display of placards per Department of Transportation (DOT) and de-confliction of incompatible hazardous materials. Types of cargo included large missiles, solid rocket propellants, explosives, armored vehicles, helicopters, cannons, trucks, fire trucks, heavy construction equipment and miscellaneous hazardous materials, explosives, arms, and combat personnel. Failure to perform correctly could have resulted in loss of aircraft and loss of life. Received extensive training in aircrew and emergency management and leadership. Received specialized training in and was designated as an ENAF (emergency nuclear airlift forces) crew member. Authorized to carry concealed weapons. Received combat small arms, survival, escape and evasion and training in other skill sets necessary to survive in combat behind enemy lines.

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commander. ALCFs are maintained in a 36 hour maximum alert response status and are able to deploy and operate at “Austere” locations around the world.

As organizations involved with inherently joint airlift operations, ALCFs support “Affiliates” with formal training in preparation for deployment via airlift as well as train with affiliates in joint command and control processes at locations with minimal DoD / Civil infrastructure. AFRC ALCF affiliates include: Reserve Forces from USA, USN, USMC, and USCG as well as civil responders under DoJ, DHS, and USAID.

Here are the kinds of airlift operations ALCEs are used to support:

- Passenger and Cargo Movement – Focused on en-route and/or austere environments
- Combat Employment and Sustainment – Landing Zone / Drop Zone operations
- Aeromedical Evacuation – Integrating Airlift/OPS with AE
- Special Operations Support – Liaison / agile C3 support
- Operational Support Airlift – Light aircraft operations

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## National Economic Development

### Diversified Risk Managed Asset Classes

Toll Roads / Transportation / Heavy Civil Infrastructure /  
Seaports / Airports / Logistics / Renewables / Energy /  
Refineries / Water / Waste / Natural Resources / Mining /  
Agriculture & Food Security / Education / Healthcare /  
Aviation and Aerospace / Commercial & Residential Real Estate /  
Tourism / Media / Software / Security

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## SELECTED PUBLIC SPEAKING AND PUBLICATIONS

- “Firewalls, the Challenge of Multidisciplined Teams – An Expert’s Perspective,” article by Thomas Young, PE, California Lawyer, November 2012
- Featured Transportation Expert – “Above The Fray – Elevated oil and gas transportation solution offers environmental advantages,” New Technology Magazine published by JuneWarren-Nickles, Calgary, Alberta, Canada; September, 2012
- Featured Speaker – “Oil 401: Canadian Oil in a World Supply Context, CivTek Vision – Access to Markets, “Sustainable Transportation Solutions” (STS),” Presented by invitation of the Canadian Energy Research Institute (CERI) to their annual oil convention, “CERI 2012 Oil Conference – Achieving Super Power Status” in Calgary, Alberta, Canada; April 23, 2012
- Featured Transportation Expert – “The Arctic Oil & Gas Exploration & Production (E&P) Market 2011-2012,” By Visiongain UK Trade Intelligence Magazine, Published September 2, 2011

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### CEO PROFILE – (Which includes: CIVTEK INTERNATIONAL’s PROFILE)

#### Business and Technical Leadership – Current In-Progress Economic Planning & International Upscaling (As of June 2016):

As founding owner, CEO, Chairman and Chief Engineer of CivTek International, Mr. Young is currently (as of the date of this CV, June 14, 2016) leading national economic planning and development on \$62-billion USD in capital costs (CapX) in concessions and projects recently successfully negotiated with a national government in Africa (see page 15 of 36 of this CV).

#### Goodwill

If people act independently of their own volition, then prima facie, they are inspired. As an inspirational thought leader, Mr. Young has been invited and sole sourced to all of these heavy civil infrastructure business opportunities.

People (including Presidents and Prime Ministers of nations) respond to his leadership through independent action aligned with his doctrine. Mr. Young, on his own merits, already has introductions to several Heads of State of major African economies. In addition, the leadership of the above nation has stated that they will introduce Mr. Young to the Heads of State of all the nations on the continent of Africa in order to manifest tangible business operations of Mr. Young’s vision for a unified continent-wide transportation system: <https://civtek.com/standard.php?recordID=31> (Also attached to this CV are endorsements placed on Mr. Young’s LinkedIn profile.)

***The above facts of success demonstrate that CivTek International is externally (thus passively) driven from pent up demand seeking the leadership, the ethics, the technical acumen, and vision that Mr. Young delivers.***

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### **Future Gross Revenues – Projections Calibrated from Current Performance**

Business operations and gross revenues are scaled to the supporting CapX. The \$62 billion in CapX stated above is projected to deliver \$1.5 trillion in gross revenue over the next 50 years. On a global basis, Mr. Young now has the international relationships in place to deliver an additional \$1trillion of deal flow as measured in CapX over the next five (5) years. The \$1 trillion of additional CapX (projected estimate based on existing exponential success founded on eight (8) years of strategic positioning, international relationships, and available concessions) are estimated to produce another \$24 trillion in gross revenue over the next 50 years.

### **National Economic Development Plan – Develop and Operate Businesses**

Under Mr. Young's leadership, CivTek International has agreed to build the economy of the first nation in question starting with the \$62 billion in CapX and expanding from there. Current projects (50-year business concessions) are summarized in the table on page 15 of 36 of this CV. Businesses and their projects may be characterized as the exclusive operation of a nation's entire 43,000 km national road and toll road system; the exclusive operation of a nation's entire aviation sector including development of new international airports, ownership and operation of their national airline; development, ownership, and operation of the entire hydrocarbon vertical which includes upstream production, midstream refining, and downstream distribution and sales of refining offtakes and products; the development and ownership of three (3) deep water harbors (hydrocarbon terminal, bulk materials terminal, and container cargo terminal); development and operation of over 800 square kilometers of bauxite mines, plus iron mines, and lithium mines; the entire redevelopment of a capital city of 3 million in population; development and operation of a modern 340 MGD (million gallons per day) water system; hydroelectric power, solar power, wind power, and gas fired electric generation plants; health care and education facilities; plus the development of 25,000 homes placed in planned mixed use communities.

Generally, CivTek will own and operate any and all civil infrastructure businesses required to run modern economies and agriculture. CivTek International, acting as the

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developer/owner in capacity of asset managers and engineering procurement construction managers (EPCM's), will turn-key delivery of these entire projects.

### Executive/Business Leadership:

Mr. Young has boot strapped a boutique engineering and expert/forensic practice (CivTek) to global scale (new company: CivTek International) in the economic sectors of project development, heavy civil infrastructure, energy, hydrocarbons, software/media, aviation, and business development, coaching, mentoring, and marketing company. Exponential growth is commencing upon monetization of the \$62 billion of CapX stated above. Mr. Young directs all aspects of operations, leadership (strategic intent, culture, business doctrine, business systems), management (ISO9001, QA/QC), financial (financing, accounting), marketing (define customer needs, economic sectors, solutions), lead generation, lead conversion, and client deliverables. ("Client Deliverables" also refers to internal delivery to CivTek itself as a developer.)

- Mr. Young is a recognized leader in quality management systems. The United States Department of Commerce named him as an Examiner in 2013 for the National Baldrige Quality Award. Each spring, this award is presented by the President of the United States or the President's designated representative.
- As a strategic planning expert, Mr. Young establishes strategic plan objectives and action plans and measures these plans using key performance measures and indicators. See above for Goodwill and \$62 billion CapX results already achieved.
- Mr. Young is a recognized expert in work system design and work process management. This indicates strong foundation for future success in software development of management and business systems.
- Mr. Young holds the top principal leadership position and makes organization-wide decisions regarding employee and/or subcontractor/strategic alliance

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partner recruitment, benefits, training, development, safety and risk management.

- As an expert in business management, infrastructure systems and construction management, Mr. Young routinely determines the design requirements of key customer business processes, and measurement processes that meet strategic requirements, and improves processes to achieve better performance.

As Founding CEO and Chairman of CivTek International. Mr. Young bootstrapped CivTek from a boutique practice to a company gaining global presence credibly heading to multi-trillion-dollar market presence. **Expanding the company in a down turned economy required long-term execution of strategic intent, identification of and action upon key strategic indicators, resources, and parameters that correlated to the current success CivTek International is now embraces.**

CivTek International is an Infrastructure Solutions, Program Management and Multi-Disciplined Life-Cycle Integrator. CivTek focuses on core industries and infrastructure fundamental to the economic and physical health and well-being of all societies: energy, water, air, agriculture, transportation, waste management and ancillary technologies necessary to more efficiently deliver and operate these industries in an environmentally friendly, safe and profitable manner. CivTek provides expert assessment, advice, guidance, opinion, contracting, construction support, program management and design services to leaders in government, industry and the legal community. CivTek addresses major challenges in complex cultural settings, environmental, economic, legislative or forensic consequence in programs and projects relating to capital infrastructure in transportation, green sustainable environmental solutions, energy, oil & gas, and industrial facilities.

The Canadian government invited Mr. Young to speak at the event described below. Within two hours of giving his speech, he was requested to write an article for JuneWarren-Nickles, "New Technology Magazine.

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"Quote From - JuneWarren-Nickles (Canadian Energy Sector Trade Intelligence Group

*"The Canadian Energy Research Institute (CERI) organizes a number of major conferences each year. Over the years, CERI's conferences have come to be highly regarded with themes that address the most topical issues of our time. **Guest speakers represent a list of "who's who"** in their respective fields of expertise. Presentations provide the latest prognosis of industry trends and developments that are leading-edge and at the same time thought provoking. Delegates are senior representatives from industry and government in Canada, the United States and from overseas. Keep abreast of developments and discuss current and future directions at leading sector events. Enjoy excellent professional networking opportunities and the best intelligence to date on essential issues."*

Recognizing Mr. Young's New Technology Magazine essay, he was requested to write an article on expert witnessing by California Lawyer. In addition, he has been featured as an expert in transportation by Visiongain, a United Kingdom trade intelligence journal.

Mr. Young has a lifetime as an active member or leader of teams. He started competitive swimming at the age of six; water polo at the age of 14; Air Force ROTC during high school; martial arts instructor with over 50 students from the age of 15 to 18; Staff Sergeant, Combat Aircrew Member, Global Strategic Airlift, United States Air Force for six years; plus, over 24 years as an engineer leading complex transportation development, design, and construction projects. **His core competency is the depth and breadth of forging global stakeholder relationships essential to world class project delivery.** As CEO, CivTek International's team leader, he demonstrates strategic vision, the judgment to select the right team members, and develop industry relationships to build high value asset management portfolios, domestic and international construction, program management, engineering, and business advisory services.

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Mr. Young works directly with top level decision makers who have the authority to make strategic decisions, commit resources to improvement initiatives, authorize and entitle CivTek national economic development plans. People Seeking CivTek Services:

- Heads of State
- Executive heads of national and international Departments, Agencies, and Ministries
- Leadership of Domestic and International Industry
- CEO's and Corporate Leadership
- Banks, Financial Institutions
- Investor, Risk Management and Insurance Industry Leaders
- Attorneys
- Legislators

**Mr. Young is a recognized forensic expert witness with vetted testifying experience rendering professional opinion to the courts. He opines upon work processes, procedures, and means and methods of business, engineering design, construction processes, operation of facilities and safety.**

Mr. Young is the architect of CivTek's proprietary customer/employee centric global enterprise quality management and document control system. He has built a large reserve teaming capacity to support rapid mobilization for any sized project anywhere in the world. He is launching CivTek International with a personally hand-selected initial corps of well over 150 principal leaders that collectively bring more than 4500 person-years experience. This corps group brings a direct network of well over 15,000 professionals ready to engage CivTek International projects and move them from pre-feasibility to design, construction and profitable operations. The collective experience he leads, represents several hundred billion dollars of completed projects. CivTek International now has \$62 billion in estimated capital costs projects under pre-feasibility study as a result of national and international relationships and exclusive agreements Mr. Young holds. These projects shall all be constructed and put into operations over the next five (5) years.

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### CIVTEK INTERNATIONAL – ENGAGED ECONOMIC SECTORS

#### Primary: Business/Project Management and Infrastructure Development

*Having spent the last eight (8) years strategically positioning his company, Mr. Young is now upscaling CivTek International by **signing national agreements on several trillion dollars in economic development over the next 50-years.** He negotiated and received an emerging economy's government entitlement to a national economic development encompassing an estimated \$62 billion USD in Capital Infrastructure Budgets (CapX) supporting like-sized businesses. Total gross value of business operations based on this **\$62 billion investment over the next 50 years of concessions is estimated at over \$1.5 trillion USD.** Several of these businesses will be in revenue on day 1 of operations. Mr. Young out competed nations and major international companies for the following concessions:*

1. Strategic Business Consulting (Economic advisor to national governments)	7. Security (Maintain physical security of personnel and facilities in high risk emerging economies)	13. Agriculture (Developing national agriculture plans in emerging economies)
2. Private Equity Fund & Project/Business Financing (Partnered with licensed financial entities)	8. Healthcare (See item 10)	14. Energy (Developing oil refinery, LNG plant, and hydroelectric)
3. Hospitality/Hotels (See item 10)	9. Heavy Civil Infrastructure (see items 4, 10-12, 14-18)	15. Water (Developing a 370 MGD water system)

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4. Aviation (International Airports & Operate a National Airline and Executive Aviation)	10. Land Development & Urban Renewal (Redeveloping an entire capital city of 3 million people)	16. Highways / Roads / Bridges (Operate a 43,000 Km National roadway and toll system)
5. Entertainment/Media (Have \$200 million in movies ready to go into production)	11. Mining (Developing 800 Sq.Km of Bauxite plus Lithium and Iron)	17. Railroads (Developing a national railroad system)
6. Communications (Developing cellular network, See item 16)	12. Logistics (Inland multi-modal logistic centers located @ ports)	18. Seaports (Developing 3 deep water sea ports)

### Actual niches: Ownership and Professional Management

Any lawful activity – CivTek International is an Entrepreneurial umbrella enterprise and business conglomerate not limited too but engaged in multi-national businesses spanning engineering, construction, agriculture, entertainment, technology, mining, petroleum (both upstream and downstream operations), consumer and industrial products, project management, construction, infrastructure planning and development, energy, transportation, water, waste, land development, forensic investigations, aerospace, aerospace operations in commercial aviation and space, high technology, research and development, sales of technology/professional consulting services/and products, software, media, television, movies, business systems, business consulting, and engineering consulting.

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### EXPERT WITNESS AND FORENSIC CONSULTANT – “TRANSPORTATION CONSTRUCTION”

#### **SELECTED PROJECT EXPERIENCE RELEVANT TO THE FIELD OF EXPERT WITNESSING TITLED “TRANSPORTATION CONSTRUCTION” DEFINED BELOW:**

DRAINAGE, MAPPING and CIVIL ENGINEERING (CALTRANS and LAND DEVELOPMENT)

**Transportation Construction** describes the civil engineering specialty regarding airports, highways, bridges, rail, harbors and associated infrastructure. This area of expertise encompasses knowledge and experience in the complete life-cycle of heavy civil infrastructure; multiple phases of project delivery in Planning, Environmental Studies, Design, Right-of-Way Activities, Construction, and Operations and Maintenance. Issues addressed in litigation include estimating, scheduling, productivity, cost overruns, geotechnical engineering and failures, structural failures, construction work zone accidents, construction safety (OSHA), temporary structures, design code violations, construction defects, failure analysis, hydraulic and drainage, ADA violations, inspections, traffic safety, and signage. It requires knowledge of government policies, procedures, project development, design, construction management and construction standards and methodologies. Transportation Construction involves the planning, financing, development, design, surveying, construction, and operations and maintenance of airports, highways, roadways, bridges, tunnels, storm sewer, and utilities.

Mr. Young's expertise also encompasses:

- ▶ Drainage ◀
- ▶ Land Development ◀
- ▶ Topographic components of survey mapping and construction surveying/layout ◀
- ▶ Leadership and Management of Multi-Disciplined Project Delivery ◀

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### Program Management, Agency Standards & Policy Development:

**State of Alaska (CivTek)** – Member of the State of Alaska Privatization Task Force, Department of Transportation and Public Facilities Subcommittee. Active member on the Design and Construction focus group. Spearheaded legislative recommendations to develop a core group of project managers within ADOT so that both internal and external support groups would have a single point of contact within ADOT that would be responsible for project development. Coordinated expert witness testimony from California. Mr. Young's primary recommendation on Program Management was included in the final report:

"16. Recommendation: Implement total project management. One project manager assigned to carry a project from conceptual design through construction. Rationale: To provide continuity, consistency, and accountability for entire project rather than piecemeal management. Barriers: Departmental resistance. May have to change skill set of current work force." 1999. *Contact: Mr. Bob Everitt, PE, Former Statewide Director of Local Programs for Caltrans, (Mr. Everitt passed away in spring of 2010)*

**Caltrans North Region, Super District** – Reported to North Region Office of Design South Division Chief as the lead engineer for the first division-wide project engineers meeting. Objective of meeting: Assess current program delivery and effect positive change. Through independent action, interviewed division project engineers to solicit constructive feedback on issues germane to division program delivery. Presented findings and made recommendations to Division Chief. Proposed, coordinated, and published the meeting's agenda and informational manual. Acted as lead facilitator for the meeting. Caltrans North Region Director and Chief of Design were in attendance. 1998. *Contact: Mr. Michael Samadian, Senior Engineer, Caltrans, 916-324-2048; Mr. Paul Engstrom, Former Senior District 8 Deputy Director, Caltrans, 916-969-7354.*

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### Highway Project Development:

**Steese Highway, Alaska Department of Transportation Rehabilitation Project** (CivTek Corporation sub-contractor to Bush Construction Surveys) – Designed a new plan and profile for nine miles on the Steese Highway. 2002-2003. *See attached letter of recommendation from Mr. Dan Bush.*

**Parks Highway, Alaska** (CivTek Corporation sub-contractor to Bush Construction Surveys) – Performed horizontal and vertical geometric re-design for 26 miles of highway. Expediently performed design to meet client's schedule. 2002-2003. *See attached letter of recommendation from Mr. Dan Bush.*

**Interstate 80/Douglas Boulevard Interchange, City of Roseville, California** (CivTek sub-contractor) – This is a \$20 million urban interchange. Performed lead hydraulic engineer design duties to include design for highway interchange drainage facilities including hydrology, runoff analysis, flow routing, and open channel flow. Made cut and cover tunnel design and construction specification design recommendations. Performed constructability review and QA/QC for compliance of 35% plans to sound engineering practice and Caltrans standards. Reviewed and corrected issues with project survey controls. Unique and challenging features included: cut and cover tunnel (coordinating mechanical and electrical design of tunnel storm water pump station, tunnel ventilation and fire suppression system tunnel lighting system), stage construction and traffic handling plan. Instructed the corporate leadership on Caltrans standards. Advisor to corporate principals and project manager. 1999-2001. *Contact: Mr. Bob Everitt, PE, Former Statewide Director of Local Programs for Caltrans, (Mr. Everitt passed away in spring of 2010)*

**Sunrise/Highway 50 Urban Interchange Reconstruction, Sacramento County** (Employed by Caltrans District 3) – Performed preliminary project development oversight duties to include review and approval of Sacramento County's consultant submittals (geometric approval drawings, draft project report and quantities estimate). Co-authored the Cooperative Agreement between Sacramento County and Caltrans

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Project Engineer in responsible charge of development of PS&E for this \$10 million interchange. This project modified an existing Type L-10 four-quadrant cloverleaf to a Type L-9 two-quadrant cloverleaf interchange with diagonal on-off ramps. Design responsibilities inclusive of highway geometrics, stage construction, signing and pavement delineation, drainage, and structural design of concrete retaining walls and masonry sound walls. Completed project to approximately the 50% stage before leaving Caltrans for private practice. 1998. *Contact: Mr. Theron Roschen, Principal Civil Engineer, Sacramento County, 916-874-7225 (Call this number to locate Mr. Roschen's current contact information)*

**Route 80/Business 80 HOV Project Study Report** (Employed by Caltrans District 3) – Identified highway design exceptions, developed feasible mitigation measures, and performed structural cost analysis to be included in Project Study Report. A structures design background enabled Mr. Young to ascertain a previously unidentified \$8 million structural impact that the proposed HOV lanes would impose upon a previous project cost estimate of \$20-\$25 million. Had this oversight been caught later in the project development process, the mitigation measures could possibly have been cost prohibitive, potentially canceling the project. Due to separate and non-overlapping responsibilities, both District 3 and Division of Structures had overlooked the proposed HOV widenings' impact on the Route 244/Business 80 off-ramp/on-ramp (connector). 1998.

**Highway 49 Capital Maintenance Program** (Employed by Caltrans District 3) – Project Engineer in responsible charge of developing the PS&E for this \$1.5 million pavement overlay project. Wrote revised project study report to incorporate scope increase of 5.3 miles of additional highway. Delivered project one year early. 1998.

**Sycamore Interchange Drainage Design Check** (Employed by Dokken, City of Vista, Caltrans District 12) – Performed independent design check for highway interchange drainage facilities to include hydraulic analysis of runoff, flow routing, open channel flow, backwater analysis, inlet/outlet control and orifice/weir calculations. 1995.

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**Eastern Transportation Corridor (ETC) Bridge Deck Drainage Design (Employed by Dokken, Orange County, Caltrans District 12)** - Designed final deck drainage for the Northwest Connector and preliminary deck drainage for 5 other ETC structures. 1995-1997.

**Advanced Planning Studies** (Caltrans, Division of Structures Design; Dokken Engineering; and CivTek Corporation) – Explored alternative structure types with consideration to right-of-way acquisition. Ascertained economic feasibility for inclusion in project study reports (PSRs). Major structures included proposed \$10 million INS inspection and impound facility on Interstate 5 north of San Diego, and bridge replacement/widening for an intersection on structure in Santa Barbara located adjacent to railroad right-of-way. 1992-2001.

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### Construction Management:

**Cypress Seismic Bridge Replacement Project** (Employed by Caltrans Office of Structure Construction, District 4) – Performed construction oversight duties for \$16 million contract. To ensure life safety, performed detailed stress and stability analysis of falsework and trenching and shoring. Completed field inspections of bridge sub- and superstructures. Ensured contractor compliance with contract plans, specifications, and approved shop drawings. Reviewed contractors' critical path (CPM) schedules. Established and maintained bridge line and grade through on-site surveys. Enforced environmental compliance. Documented work progress through daily diaries and photographs. Negotiated field solutions to design oversights. Performed accident and incident investigations. Performed quantity takeoffs and monthly pay estimates of contractors' work. Maintained construction records and files. Identified additional duties as required to ensure the safe and timely execution of contract at cost. 1994-1995. *Contact: Mr. Hamid Kondazi, Bridge Construction Project Engineer, City of Berkeley, 925-283-2996.*

**Jack Tone Road On-Ramp Overcrossing Falsework Design Check and Jack Tone Road Off-Ramp Separation Falsework Design Check** (CivTek sub-contractor to Nolte, City of Rippon, Caltrans District 10). 1999. To ensure life safety of the public and contractor's personnel, performed detailed stress and stability analysis of falsework.

**Parkway Calabasas Falsework Design Check** (Employed by Dokken, City of Costa Mesa, Caltrans District 7) – To ensure life safety of the public and contractor's personnel, performed detailed stress and stability analysis of falsework containing up to 90-foot clear spans and supporting a new four span and an adjacent single span extension for CIP/PS structures over Route 101 in Los Angeles County. Calculated camber strip dimensions and ensured contractors' compliance with standard Caltrans traffic safety mitigation measures. 1995-1996.

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**Bristol Street Falsework Design Check** (Employed by Dokken, City of Costa Mesa, Caltrans District 12). To ensure life safety of the public and contractor's personnel, performed detailed stress and stability analysis of falsework. 1995-1996.

**Sacramento International Airport Falsework Design Check** (Employed by Dokken, Sacramento County). Trained new engineer in the Caltrans methods of falsework design and procedures of independent design checks necessary to ensure public and contractor personnel life safety. 1995-1996.

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### Seismic Retrofit & Research:

**Route 170-5 Separation Retrofit Design and Route 90/405 Separation Projects, Jefferson Boulevard, UC** (City of Los Angeles (near Van Nuys), Caltrans District 7, Employed by Caltrans Division of Structures) – Designed traffic control and stage construction work plan for seismic retrofit on Interstate 5 in Los Angeles County that minimized disruption to commuter traffic. Performed seismic analysis and developed seismic retrofit strategies and details for two seven-span R/C box girder single and multi-column bent structures on curved alignments. 1992-1993.

**Santa Monica Viaduct Project Design** (Employed by Dokken, City of Los Angeles, Caltrans District 7) – Seismic retrofit, San Pedro Off-ramp EB, Griffith Street Off-Ramp EB, performed seismic analysis and developed retrofit strategies for 353-foot and 374-foot total length 5&7 span, R/C box girder off-ramps with single column bents. 1996.

**Terminal Separation** (Employed by Caltrans Division of Structures) – Drilled Shaft Testing, assisted design senior with contract oversight duties. Performed analysis of terminal separation drilled shaft testing to develop proper force vs. displacement (P-Y) design curves for site-specific foundation conditions in San Francisco. 1992-1993.

**Bayshore Highway 101 Viaduct (University of California, San Diego, Seismic Research Oversight)**, (Employed by Caltrans Division of Structures) – Checked compliance of combined concrete and structural steel scale test model for conditions of similitude and adherence of model detailing to proposed retrofit schemes. 1992-1993.

**PEQIT** (Employed by Caltrans Division of Structures) – Post-Earthquake Investigation Team. Assisted senior engineers in the writing and preparation of report documenting the Cypress Viaduct Collapse in Oakland, California during the Loma Prieta Earthquake. 1992-1993.

### Tieback/Retaining & Sound Wall Design:

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**Tieback Walls, Rancho Bernardo Road Undercrossing** (CivTek sub-contractor to Nolte, Interstate 15, San Diego County) – After previous delays caused by failure to achieve Caltrans approval, the prime consultant hired CivTek to redesign and then obtain Caltrans approval for tieback walls. Performed review and redesign of tieback walls to support bridge abutments founded on both spread footings and pile caps on Rancho Bernardo Road Undercrossing on Interstate 15 in the County of San Diego. As part of a larger land development project, Rancho Bernardo Road was widened from two lanes to six mixed flow vehicular lanes plus two bike lanes and sidewalks.

Significant value added to client: Accelerated total project delivery six months by eliminating the bottleneck with the Caltrans approval. Experience allowed Mr. Young to quickly recognize that the original geotech lateral wall pressure loadings were undervalued by a factor of four. If the tiebacks walls had been designed and built under the geotechs' original recommended loadings, the walls and thus the abutments and bridge structure on mainline Interstate 15 would have been subject to excessive settlement or potential collapse. Additionally, Mr. Young provided rational responses to Caltrans district engineers as to why tieback walls should not be extended to accommodate future structure widenings. 1999-2001.

**City of Rocklin/Route 80 Sound Walls** (Placer County, Caltrans District 3) – Project Manager and Engineer in responsible charge for developing the PS&E for 3000 feet of sound walls (\$1.5 million) along Interstate 80 west of Rocklin Road. Design issues included aesthetics, wall layout geometry, environmental coordination, right of way issues, drainage design, structural masonry design, traffic safety and construction area signing. 1997-1998.

**Paige Undercrossing Sound Wall Design and Construction Support** (City of Thousand Oaks, Caltrans District 7, employed by Dokken Engineering). Conducted feasibility study to recommend several design options for a new sound wall on an existing bridge deck overhang. Designed masonry sound wall, conducted seismic analysis of existing bridge, and wrote specifications. Developed unique structural detail to support new sound wall above but independent of existing structurally inadequate bridge abutment wing walls.

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To ensure life safety of the public and contractors personnel, performed independent review check of contractors falsework and concrete mix designs. 1995-1997.

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### Bridge Design:

**Van Nuys Airport** (CivTek Corporation Consultant to City of Los Angeles) – Designed, detailed, and performed seismic analysis of 2-span slab bridge with pier wall over Bull Creek, a major Los Angeles County Flood Control facility with peak flow rates of over 11,200-cfs. The geometry of the bridge was tightly controlled by the airfield elevation. To ensure minimum freeboard (vertical clearance from the water surface) to both the bridge soffit and tops of channel, performed complex hydraulic analysis of the Bull Creek channel including water surface profiles that included the effects of the bridge pier upon the water surface profile. Analyzed airfield hydrology and hydraulics. Coordinated design and plan approval with the Los Angeles County Flood Control District. 2003-2005.

**Independent Peer Review and PS&E Check of Elkhorn Boulevard Overhead Widening** (CivTek Corporation Consultant to Sacramento County) – Performed independent project oversight and peer review to meet three requirements of Sacramento County: life safety, reduce costs, reduce schedule. Goals were accomplished by performing structural and seismic analysis, constructability review, and specifications review for cast-in-place, reinforced concrete, post-tensioned, three-span bridge widenings and seismic retrofit of existing bridge. Made 110 total design changes, ten of which were potential life safety or fatal flaw issues and 100 of which saved a minimum of \$3,000 per issue in change orders, total cost savings to client at least \$330,000 and most probably more. 2002. *See letter of recommendation from County of Sacramento. Contact Mr. Theron Roschen, Principal Civil Engineer, Sacramento County, 916-874-7225.*

**Lewis Road Overhead, Ventura County** (CivTek Corporation sub-contractor) – This proposed structure was cutting edge in terms of innovative seismic design strategy and Caltrans design review. The design must conform to a 90% confidence that the failure probability does not exceed two percent in 50 years, according to the probabilistic fault displacement hazard assessment (FDHA) performed. As the responsible engineer-in-charge, Mr. Young developed the structural configuration and the seismic design concept, design strategy, and performed the seismic analysis to accommodate a fault rupture directly under this railroad overhead. Originally planned as a 5-span structure,

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Mr. Young was able to reduce costs by an estimated \$750,000 over the preliminary design performed by others. He accomplished this by eliminating one span and the high skew angles and unbalanced span lengths that were further complicating the seismic capacity design. Analysis of bent location constraints revealed that high skew angles could be eliminated at all but one bent. Cost savings were also achieved by utilizing a slab bridge for the northern span. To accommodate the 0.8 meters of vertical displacement and to prevent a punching shear failure of the column through a traditionally detailed column to bent cap connection, drop bent caps supported simple spans tied together with continuous anchor cables running the full length of the bridge were utilized. Caltrans (Division of Structures) has stated that they do not have a policy or guidance for bridge design with fault rupture potential and that this is uncharted territory for their agency. Mr. Young presented design concept to both Caltrans seismic reviews and Dr. Sewell and received initial verbal concurrence of design concept and strategy. 2001. *Contacts: Mr. Chris Hooke, PE, Principal Engineer, Ventura County, 805-654-2048, [Chris.Hooke@ventural.org](mailto:Chris.Hooke@ventural.org); Dr. Robert Sewell, Seismologist, Sewell & Associates, 303-665-2731.*

**Monterey County Bridge Construction Support and Design Services for Seven Bridges** (CivTek as sub-contractor) – Provided construction support services for seven bridges to include six contract change orders: complete redesign for abutments, redesign for compression bracing for steel members (thru-truss bottom chord). To ensure life safety designed safe construction sequence for seismic retrofit of pier wall structure removal and reconstruction, designed traffic control plans that protected public safety, added structural steel specifications, reviewed and approved welding procedures, and reviewed and approved CIDH repair methods for pile anomalies. Resident engineer relied on Mr. Young's expertise regarding interpretation of contract plans, specifications, and a variety of technical issues. 2001. *Contact: Mr. John Suwada, PE, Bridge Construction Engineer, Monterey County, 831-594-9527, 831-594-9527 (County Cell), 831-809-4908 (Personal Cell).*

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**Lonoak Road Bridge Design, Federal HBRR Funding Program, Monterey County** (CivTek Corporation sub-contractor) – This bridge is a two-span, cast-in-place, prestressed box girder structure spanning Lewis Creek. 2001.

**Final Bridge Design, PS&E, Federal HBRR Funding Program, San Benito County** (CivTek Corporation sub-contractor) – These four structures are slab bridges that required special design due to long span lengths and high skew angles. These bridge designs were shelved several years ago. Mr. Young reviewed and revised both the roadway and bridge plans and specifications as necessary to meet current standards of practice. 2001.

- **San Juan Creek Branch @ San Juan Highway (Br. No. 43C-24)**
- **San Juan Creek @ San Juan Highway (Br. No. 43C-25)**
- **Arroyo Dos Picachos Creek @ Fairview Road (Br. No. 43C-009)**
- **Santa Ana Creek @ Fallon Road (Br. No. 43C-32)**

**Soscol Avenue Bridge over Napa River Bypass Project, Final Design Review, City of Napa** (CivTek Corporation sub-contractor) – Unique features for this 335-foot, 3-span, cast-in-place, prestressed box girder structure include variable span depths (arch) and large diameter cast-in-drilled-hole shaft foundations. Performed final summary review of construction plan set for client. Noted several life safety and constructability issues to include the number 14 main column reinforcement development length and conflict with girder reinforcement. Client then had the opportunity to correct these issues prior to final PS&E submittal. 2001.

**Eastern Transportation Corridor (Section 13) Northbound Jamboree Road Over-Crossing Design** (Employed by Dokken, Orange County, Caltrans District 12) – Fast track bridge estimated at \$4 million. Designed 734 foot, five-span, CIP/PS, highly skewed (up to 60 degrees) with unbalanced spans, box girder structure that entailed extremely complex geometry. The horizontal alignment included a left-hand to right-hand curve reversal from 900 to 1800 feet with 17% super elevation transition from +10% to -7%. Performed seismic analysis, design, detailing, and resolution of significant construction issues resulting from new ETC design criteria. Special drop slabs and overhangs were

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employed to efficiently locate #18 main bent cap reinforcement needed to overcome column plastic moment inputs. A two-tier design earthquake that required elastic behavior for the lower level event produced plastic shear demands upon the foundation that historically have not been seen within the Caltrans bridge system. Significant foundation cost savings (about \$500,000) resulted by increasing column lengths and using isolation casings. This reduced shear demand and thus the required number of piles by 50%. An in-progress construction picture of these special column details was included in an ETC feature article for California Construction Magazine. Made falsework design recommendations to construction personnel. 1995-1997.

**ETC Bridge Deck Drainage, Design-Build Toll Roads Design** (Employed by Dokken, Orange County, Caltrans District 12) – Designed final deck drainage for the Northwest Connector and preliminary deck drainage for five other ETC structures. Selected and ascertained the placement sizing, and material types for pipes, and other drainage appurtenances. 1995-1997.

**ETC (Section 8), Design-Build Toll Roads, Wildlife Crossing Culvert Design** (Employed by Dokken, Orange County, Caltrans District 12) – Estimated construction costs, \$500,000. Under direction of senior engineer, performed design, detailing and specifications writing for large high profile steel multi-plate culvert, 316 feet long, 24-6" wide, with 15 feet of cover, and supported on a concrete mat foundation. Implemented construction costs savings of 50% for this design/build project by conducting a value engineering study to determine the best economic alternative between a cast-in-place reinforced concrete (RC), a pre-cast RC, or multi-plate culvert. The original contract documents called for a pre-cast concrete structure at twice the cost of the multi-plate system that Mr. Young selected. These culverts were then employed in every other similar instance on this \$700 million design/build project. This structure runs under and supports a major highway, the new six-lane Route 241 toll road in Orange County. 1995-1997.

**ETC (Section 10) Chapman Avenue OC Abutment and Wing-Wall Design (Dokken, Caltrans District 12); ETC (Section 14) Walnut Avenue OC Abutment and Wing-Wall Design** (Dokken, Caltrans District 12 – Unique features included the design and development of new details for special transverse seismic walls. These walls provided

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additional lateral seismic capacity at a cost much less than that of additional piles. Chapman Avenue utilized lead core bearings to dampen seismic response. 1995-1997.

**ETC (Section 15) Peters Canyon Culvert Design** (Dokken, Orange County, Caltrans District 12) – Estimated construction cost, \$500,000. Conducted design, detailing and specifications writing of a large multi-plate steel high profile arch culvert, 238 feet long, 31-7” wide, 7 feet of cover, and supported on a concrete mat footing. This structure runs under and supports the new alignment for Irvine Boulevard in Orange County. 1995-1997.

**ETC (Section 8) Portola Parkway UC (Right) Design** (Dokken, Orange County, Caltrans District 12) – Estimated construction costs \$1.5 million. Designed single span CIP/PS box girder structure including analysis of abutment seismic forces. 1995-1997.

**ETC (Section 8) Portola Parkway UC (Left) Design** (Dokken, Orange County, Caltrans District 12) – Estimated construction costs \$1.5 million. Designed single span CIP/PS box girder structure including analysis of abutment seismic forces and special construction live load analysis for a materials hauling lane.

**Abutment and Wing-Wall Design** (Dokken, Orange County, Caltrans District 12) 1995-1997.

- ETC (Section 13) Northwest Conn
- ETC (Section 13) Northeast Conn
- ETC (Section 6) S5-N133 Separation Conn
- ETC (Section 13) WS/NW Separation

**Arroyo Simi Bridge on Sequoia Avenue Design Check** (Dokken, Caltrans District 7) – (new bridge design check) Performed independent design and detail check calculations for a two-span CIP/PS structure supported by a pier wall and seat type abutments.

### Land Surveying, Mapping, and Construction Layout of Complex Projects:

**Skyborne Development (Coachella Valley)** - For this \$1-billion (estimated sale value), 2200-lot residential land development project by D.R. Horton, CivTek performed

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construction surveys and final Quality Control (QC) of engineering plans. Services were performed under time constrained field conditions. CivTek’s services were usually on the overall project’s critical path schedule. Construction activities commenced as soon as CivTek completed its services. Construction activities peaking at an estimated \$200,000 per day relied on timely services.

CivTek mobilized 550 miles with a professional survey and engineering team of 150 years combined experience plus GPS, conventional survey equipment, computers, and job trailers to run up to ten field survey crews. CivTek employed GPS and conventional survey techniques. The project required hiring local labor and running as many as seven survey crews simultaneously. Staff and workers performed in up to 122 degree heat at an extremely fast pace seven days per week, 16 hours per day, for approximately eight months during 2006. CivTek conducted final quality control checks on engineering plans and surveying, including sewer, water, site design (including engineering elements of landscape architecture) and roadway and, when required, performed pragmatic redesign in the field under severe schedule constraints.

In addition to the entire subdivision infrastructure, the project involved developing a fire house site (including trash enclosures and ADA requirements) as well as public roads, drainage channels, and bridge structures. CivTek Corporation was not back-charged for any delays on this complex one square-mile project. 2005-Present (project currently on hold).

**Private Projects** – Under Mr. Young’s responsible charge direction, oversight and final approval, CivTek has performed construction surveying, design mapping, and design on numerous private projects to include land development, civil site design, local street and cul-de-sac designs. Mr. Young has worked with Licensed Land Surveyors performing property boundary surveys. 2003-2008.

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