

RUSSELL G. CLOUGH

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EDUCATION AND PROFESSIONAL

BSCE 1964 and MSCE 1965 from Stanford University; Contractor's License in Calif., Oregon, and Utah; Registered Civil Engineer in Calif., W.Va., and Hawaii; Registered Geotechnical and Safety Engr. in Calif.; Certified Blaster, Tunnel Safety Rep, MSHA Rescue Team Leader, AGC Negotiating Committee, UTRC, ASCE life member.

WORK EXPERIENCE

Stanford University <http://cem.stanford.edu/faculty/index.html> **January 1994 to Present**
Consulting professor in Civil Engineering. Teach classes in engineering design, estimating, dispute resolution, and construction cases. During this period have continued consulting work, arbitration, and served on more than 40 Dispute Review Boards. Consultant and lecturer to the Chinese Ministry of Water Resources in 1997-1998.

Russell G. Clough Co. **August 1979 to May 1994**
Owner of a contracting, consulting, and engineering company. Designed and built wine caves & civil tunnels. Contracted estimating, management, and equipment for Torno as a VP-Operations on a tunnel and two dam contracts, a Project Manager for Obayashi on two waste water projects, and a Manager for various contractors on other projects. These jobs included hydro re-fits, soft ground tunnels using EPB machines, Lovat TBM's, shields, hard rock tunnels using explosives and roadheader methods, open cut excavations, shoring, dewatering, concrete structures, bridges, buildings, etc.

Gordon H. Ball, Inc. **June 1968 to July 1979**
Laborer, field engineer, project engineer, and project manager on eight projects including dams, highways, buildings, structures, tunnels, and shafts. Four of these projects were dam contracts for the Corps or Bureau including underground work, foundation excavations, dirt and rock embankments, and concrete structures. Worked in the home office estimating heavy construction projects for several years.

Various Contractors & Engineering Companies **June 1961 to June 1968**
Worked on nine tunnel, dam, and structures projects as a laborer, foreman, and engineer including a number of difficult dams and tunnels in the Coast Ranges of California which required breast boarding and various methods to handle hazardous and gassy conditions. Worked for a consulting engineering company for two years.

U.S. Marine Corps, U.S. Forest Service **June 1959 to September 1960**
Six months active and then reserve duty in the airborne infantry. Surveying forest roads.

GENERAL EXPERIENCE

Have visited over 400 projects in Japan, China, Korea, Canada, Italy, England, Germany, Belgium, Sweden, Norway, Austria, Switzerland, Australia, Guatemala, Mexico, and the U.S. Director of several organizations.

PERSONAL HISTORY

Birthdate: December 25, 1941. Height and weight: 6 feet, 170 pounds. Married with one grown son. Father was a mining and construction engineer.

Russell Clough DRB and Mediation List

| # | Project | Owner | Contractor | Contract \$ (Million) | Appt. by Owner | Appt. by Chair | Coopr | Dates | Type of Work |
|---|-------------------------------|---------------------------------|---------------------|-----------------------|----------------|----------------|-------|----------------|---|
| 1 | First Ave Bridge | Seattle Metro | Coluccio | 8 | | X | | 4/95 to 8/96 | Two frozen shafts and 1,500 feet of tunnel using pipe jacking and Iseki TBM for sewer relocation. |
| 2 | Scioto Wastewater Interceptor | City of Columbus, Ohio | McNally | 19 | | | X | 10/95 to 10/98 | Several shafts, 7,000 feet of TBM tunnel for sewer. |
| 3 | Alki Wastewater Transfer | King County Seattle | McNally | 25 | | | X | 11/95 to 6/96 | 10,000 feet of EPB tunnel with two shafts. Very soft ground and high water table. |
| 4 | Universal City Station | Los Angeles Transit Authority | Tutor-Saliba | 80 | | X | | 6/96 to 6/00 | Rapid Transit Station. Deep exc-soldier pile/tie backs, concrete structure, finish mechanical work. |
| 5 | Portland Light Rail | Tri-County | Kajima | 35 | X | | | 8/96 to 5/97 | Light rail rapid transit system. |
| 6 | Congress Heights Subway | Washington DC Transit Authority | Kiewit-Keuny | 60 | X | | | 4/97 to 3/99 | Washington, DC rapid transit system. Soft ground twin bore TBM tunnel and associated work. |
| 7 | Contract 4 Wastewater System | Wayne County Detroit | Ric-Man Const, Inc. | 16 | | X | | 3/98 to 12/01 | Three miles of 10 foot diameter TBM tunnel, several shafts for municipal wastewater system |
| 8 | Orinda Wastewater System | Contra Costa County | Mountain Cascade | 9 | | | X | 3/98 to 4/99 | Two miles of 3 to 4 foot diameter microtunnel, numerous shafts, open cut, etc. |
| 9 | Highway 17 Slide Repair | Caltraus San Jose | Granite | 3 | | X | | 11/98 to 9/99 | Excavation, soil nail wall, and slide repair on state highway 17. |

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|----|----------------------------------|---------------------------------------|------------------------|--------------------------|----------------------|-------|----------------------|---------------------|--|
| 13 | I 80 Highway Bridge | Caltrans Davis | RM Harris | 13 | | | X | 6/99 to 10/01 | Interstate 80 bridge and overpass |
| 14 | Rinconada Treatment Plant | Santa Clara Water Dist. | Pacific Mechanical | 7 | | X | | 12/99 to 7/03 | Water treatment plant |
| 15 | Penitencia Treatment Plant | Santa Clara Water Dist. | Pacific Mechanical | 17 | | X | | 4/00 to 7/03 | Water treatment plant |
| 16 | Universal City Bridge | LA Transit Authority & Caltrans | Brutoco, Inc. | 30 | X | | | 6/00 to 6/02 | Bridge over Hollywood Freeway (101) and restoration work |
| 17 | Denny Way CSO Project | King County Seattle | Coluccio Const. Co. | 30 | | X | | 2/01 to 9/02 | 15 ft. diameter EPB tunnel, several shafts, and smaller tunnels |
| 18 | Highway 108 Bypass | Caltrans Sonora | Goodfellow Const. | 41 | | X | | 1/02 to 11/05 | Calif. State freeway bypass and bridges |
| 19 | Olivenhain Dam | San Diego County | Kiewit | 150 | | X | | 7/02 to 12/03 | Roller Compacted Concrete Dam and ancillary works |
| 20 | South Lake Union Pipe | King County Seattle | Coluccio Const. Co. | 11 | | X | | 9/02 to 5/04 | Combined sewer outflow pipelines and structures - microtunneling and EPB |
| 21 | Reno Rail Corridor | City of Reno | Granite - Parsons | 180 | | | X | 6/03 to 6/06 | Design Build Project to depress railroad in subgrade structures through Reno |
| 22 | San Jose Flood Channel | Santa Clara Water Dist. | RGW | 11 | | X | | 8/03 to 7/06 | Flood control channel excavation and structures |

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|----|----------------------------|------------------------------|--------------------------------|-----|---|---|---------------|--|
| 25 | Hwy 101/85 Interchange | Caltrans San Jose | Pavex | 20 | | X | 8/04 to 3/05 | Widen freeway, bridges, etc. |
| 26 | New Natomas Pump Station | Sacramento Sanitary District | Kiewit | 100 | X | | 10/04 to 8/06 | Underground pump station and surface facilities. |
| 27 | Calif. State Highway 22 | Orange Connty Transit | Granite | 460 | | X | 4/05 to 4/08 | Design build freeway in Southern California |
| 28 | Bradshaw Waste Water Line | Sacramento Sanitary District | Affholder | 21 | X | | 4/05 to 11/05 | Wastewater EPB tunnel and facilities |
| 29 | Laguna Interceptor | Sacramento Sanitary District | Teichert | 15 | X | | 5/05 to 10/07 | Wastewater pipeline, EPB tunnel, and facilities in Elk Grove |
| 30 | Highway 87 Widening | Caltrans San Jose Hwy 87 | RGW | 44 | | X | 6/05 to 5/07 | Widen freeway, bridges, etc. |
| 31 | Los Angeles Light Rail | MTA | Washington, Shimmick, Obayashi | 898 | X | | 9/05 to 9/08 | At grade, stations, and underground design build rapid transit. EPB tunnel |
| 32 | Hwy 280 Widening - Upgrade | Caltrans San Jose Hwy 280 | RGW | 16 | | X | 8/06 to 10/07 | Widen freeway, bridges, etc. |
| 33 | Hetch Hetchy Upgrade | San Francisco PUC | Ranger Pipeline | 20 | X | | 11/06 to 7/07 | Water structures and upgrades across Hayward fault |
| 34 | Ellis Ave Sewer | Orange County San District | Barnard Soletanch | 32 | X | | 11/06 to 3/08 | Wastewater structures and EPB tunnel |
| 35 | Brightwater Central | King CountyWA | Parson Frontier | 220 | | X | 4/07 to | Design Build Wastewater structures and Slurry TBM tunnel under high head. |

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|----|----------------------------------|--|--------------------------------|-----|---|---|--------------------|---|
| 38 | Hwy 152 Truck Lane Upgrade | Caltrans Hollister Hwy 152 | RGW | 11 | | X | 9/07 to 6/08 | Soil nail and retaining walls, truck lanes, etc. |
| 39 | Lenihan Dam | Santa Clara Water Dist. | Flatiron | 35 | | X | 11/07 to | Upgrade diversion works for dam including 2,000 foot tunnel. |
| 40 | Brightwater West | King CountyWA | JayDee, Coluccio, Taisei | 250 | | X | 12/07 to | Design Build Wastewater structures and Slurry TBM tunnel under high head. |
| 41 | Aleman Pump Station | San Francisco PUC | Monterrey Mechanical | 30 | | X | 3/08 to | Cleanwater Pump Station |
| 42 | Bujagali Dam | World Bank, Uganda, Sithe Global | Salini | 400 | X | | 4/08 to | 250 MW hydroelectric project, rock & concrete dam on Nile River in Uganda |
| 43 | Seven Trees Center Library | City of San Jose | Gonsalves & Stronck Co. | 26 | X | | 6/08 to | City center and library building |
| 44 | Harry Tracy Water Plant | San Francisco PUC | NTK Const. Inc. | 14 | | X | 9/08 to | 144 MGD Water Trt Plt Upgrade |
| 45 | Channel Pump Station | San Francisco PUC | Monterrey Mechanical | 15 | | X | 11/08 to | Pump, odor control, and injection system improvements, etc. |

46

\$4,237 13 22 10
Total \$ Appt. Appt.
Contract by Chair by
(Million) Owner Contr

Arbitrations and Mediations - Russell Clough

| | | | | | | | | |
|---------|---------|---------|--|--|--|--|---------------------|---|
| Various | Varions | Various | | | | | 6/65 to 12/94 | Negotiations as engineer or contractor with unions, etc. |
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South
Interceptor
Sewer

King County
Seattle

Tri-State
Constructio
n

28

12/02
to
1/03

Mediator for \$3MM dispute
regarding changed conditions,
etc.