

## EDUCATION

- 1958 - Majored in Structural Engineering, Obtained B.S.C.E. from Lafayette College, Easton, Pennsylvania
- 1958 - 59 Took various courses in Construction and Demolition U. S. Army Engineering School, Fort Belvoir, Virginia
- 1960 - 62 Various graduate courses in Hydraulics and Engineering Management, University of California, Los Angeles
- 1963 - 64 Various graduate courses in Concrete Design Soils Investigation, San Bernardino, California
- 1966 - 72 Completed Law School. Obtained Juris Doctor Degree. Western State College of Law, Anaheim, California
- 1982 Completed Air War College
- 1975 - Completed courses in environmental law, hazardous waste clean up, cultural procedures, design

## PROFESSIONAL QUALIFICATIONS

- Registered Professional Engineer,  
Commonwealth of Pennsylvania P.E. 011862E
- Registered Civil Engineer, State of California 15958
- Registered Professional Engineer, State of Nevada 3771
- Registered Professional Engineer, State of Arizona 7558
- Registered Civil Engineer, State of Colorado 13798
- Fellow in Society of American Military Engineers

## WORK EXPERIENCE

- Oct 91 - May 95 Director IRP Program  
March Air Force Base, Riverside, California
- Feb 81 - Oct 91 Civil & Environmental Engineer  
Air Force Regional Civil Engineer for  
Ballistic Missile Support  
Norton Air Force Base, California
- Jun 76 - Feb 81 Chief Environmental & Contracting Programming/  
Community Planner/Construction Engineer  
George Air Force Base, California
- Jan 70 - Present Private Consulting Practice
- Jun 59 - Jan 70 Civil Engineer, San Bernardino  
County Flood Control District
- Jun 58 - Jun 59 Civil Engineer, U. S. Army Corp of Engineers  
Philadelphia District, Pennsylvania

JOHN R. SABOL

John has resided in San Bernardino, California since June 1959 and has worked in private consulting practice and for both County and Federal agencies. He is teaching an extension course in Site Assessment and Remedial Feasibility Processes at University of California at Riverside.

He earned a B.S. degree in Civil Engineering in 1958 from Lafayette College in Easton, Pennsylvania and has been a Registered Civil Engineer in the State of California since 1961. In 1972, he graduated from Western State University, College of Law in Anaheim, California earning a Jurist Doctor Degree.

During his lifetime in the San Bernardino area, he has worked for the San Bernardino County Flood and Water Conservation district and was Branch Chief for several sections, including Chief of the Hydraulic/Hydrology Branch which handled all hydraulic and hydro-geological activities within the 2000 square mile County. In this position, he coordinated flood control and water conservation matters with local/state regulators and water purveyors in Southern California. He has extensive hands on experience in the fields of Hydrology and Hydraulics.

Since 1975, he has worked for the United States Air Force; from 1975 to 1981 he worked at George Air Force Base and was the First Chief of Environmental and Contract Programming Branch when the branch was formed in 1978 under the Department of Defense Environmental Restructuring. From 1981 through 1991, he worked for the Air Force Regional Civil Engineers Office for Ballistic Missile Support AFRCE-BMS; Norton Air Force Base, California. This was a one of a kind agency which had exclusive control of all planning, construction, design and environmental compliance for all new and modernization of Ballistic Missile systems throughout the United States.

From 1981 through 1985, he worked in the Engineering Directorate as a Project Manager for over 356 million dollars of Air Force design and construction projects with all 15 projects being completed under budget and within schedule. From 1985 to 1991, he was Environmental Engineer within the Environmental and Compliance Directorate. As Module Manager within this group, he worked National Environmental Policy Act (NEPA) compliance problems/issues in the areas of Air, Noise, Land Use, Visual and Cultural Activities for five major Environmental Impact Statements (EIS) and was the principle author of nine Environmental Assessments (EA) throughout the United States; including the civilian use of Hanger 763 at Norton Air Force Base by Lockheed Aircraft Company and ALL Environmental Assessment concern with work at Vandenberg Air Force Base. This included the Air Force program mitigations for the Design and Construction of 8 acres of wetlands requiring replacement due to the construction of the 80 million dollar M-X Rail Garrison and Small Mobile Missile Test Facilities at San Antonio, Terrace with coordination with local/state and federal compliance agencies. This project has become the Air Force landmark as to how the President's policy of "No net loss of wetlands" is planned, coordinated, designed,



built and operated.

Since 1 October 1991, he has been the Federal Facilities Remedial Project Manager, March Air Force Base, California, coordinating all Installation Restoration Program (IRP) activities with State and Federal regulatory agencies. In addition, as the Branch Chief, he directed the eleven staff members doing the 30 million dollar IRP activities.

This position also included coordination of all March AFB remedial projects which included Planning, Studies and Clean Up activities with Federal, State and public entities. The base signed a Federal Facilities Agreement in September 1990 which specified a 6 year study phase before clean-up could begin. Under John's guidance and management ability, the study program was cut to 4 years with a savings of 17 million dollars. The total clean-up cost was originally estimated to be about 300 million dollars. This has been reduced to a total cost of 130 million dollars and the clean-up period has been cut from 2010 to 1997. This was achieved by the use of tiering of sites, a method he invented, looking at the Health/Safety driven risk requirement, development of a close knit team with the regulatory community and the public, and applying innovative technologies and looking only at protocols which really impact work product. This pro-active approach won March AFB national recognition as one of three Hallmark Bases in the Air Force; the best IRP in the Air Mobility Command and the best in the United States Air Force. The program has won recognition from EPA Region IX (as leader in the installation restoration field.)

During his years with the San Bernardino County Flood Control District, he served as the district's expert witness for real estate matters and general flood control litigation.

Since 1970, Dr. Sabol has maintained his own private consulting practice specializing in Hydrology/Hydraulics, land-use and development standards for sub-division on land developments under-going review by the State of California Division of Real Estate. He has also been an expert witness for flood control litigation and served as a court appointed third party for construction/design litigation. He has maintained this business while working for the U.S. Air Force.

John R. Sabol  
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## STATEMENT OF QUALIFICATIONS

Oct 91 to May 95  
Environmental Engineer  
March Air Force Base  
Riverside, CA 92518

As Director of the March Air Force Base Installation Restoration Program (IRP) he served as the Federal Facilities Remedial Project Manager and March BRAC Environmental Coordinator with responsibilities for coordinating all environmental restoration program activities with state and federal regulatory agencies and public entities. In accomplishing these duties, he directed a 12-member staff who oversaw a \$30 million-a-year hazardous waste cleanup program and developed several innovative time and cost reduction methods. Presently there are four innovative technologies up and running, with three more expected. Dr. Sabol has made presentations at many public meetings on these and other technologies.

As Chairman of the Technical Advisory Board (TAC) he transformed it into a Restoration Advisory Board (RAB) in November of 1992. Two formal 8 hour training sessions were developed and taught by Mr. Sabol so that the 42 member RAB was made fully aware of the technical ramifications of the IRP. An on site visit of 20 major sites was also conducted which was the forerunner of tours of the IRP given the public and other interested parties on a regular basis.

Dr. Sabol worked with the Public Affairs Office and developed a charter for RAB to use along with the necessary procedures and protocols required to have an effective and active board. He served as the co-chair of the RAB until his retirement in May 1995. The training sessions conducted by Dr. Sabol were video taped by the State of California and are used as a model for training other boards. The March AFB RAB was the only board of 31 that made formal comments on the Base Clean-up Plan (BCP) to the secretary of the Air Force. He co-chaired the 42 member RAB at monthly meetings leading discussions on many complex technical subjects.

This position also included coordination of all March AFB remedial projects which included Planning, Studies and Clean Up activities with Federal, State and public entities. The base signed a Federal Facilities Agreement in September 1990 which specified a 6 year study phase before clean-up could begin. Under John's guidance and management ability, the study program was cut to 4 years with a savings of 17 million dollars. The total clean-up cost was originally estimated to be about 300 million dollars. This has been reduced to a total cost of 138 million dollars and the clean-up period has been cut from 2010 to 1997. This was achieved by the use of tiering of sites, a method he invented, looking at the Health/Safety driven risk requirement, development of a close knit team with the regulatory community and the public, and applying innovative technologies and looking only at protocols which really impact work product. This pro-active approach won March AFB national recognition as one of the three Hallmark Bases in the Air Force; the best IRP in the Air Mobility Command the best in the United States Air Force in 1993. The program has won recognition from EPA Region IX, as leader in the installation restoration field.



Some of the more specific major accomplishments at March AFB are as follows:

- **PANERO REFUELING SITE** was a massive jet fuel contamination of the vadose zone and groundwater region covering about 22 acres resulting from a long time leaking of JP-4 from a pipe laying under the parking apron. The clean-up effort was expected to take 3 years for the study program, 1 year for design, followed by a 1 year construction effort. Dr. Sabol's efforts resulted in a pilot system which was up and running within 24 months at a cost savings of \$9 million.
- **GROUNDWATER EXTRACTION AND TREATMENT SYSTEM (GETS)** is a string of 9 extraction wells along the eastern boundary of the base to serve as an interdiction system to contain a TCE plume which migrated off the base and contaminated several private local water wells. This interdiction system was put in place in six months and when coupled with hot spot treatment of select toxic sites on the base, resulted in a savings to the Air Force of over \$50 million. This savings was a direct result of Dr. Sabol's getting the EPA and other regulators to agree that total treatment of the 500 million gallon plume was not necessary if it could be shown that the plume had been contained on base (GETS facility) and that the source of the plume was being removed (hot spot treatment).
- **INVESTIGATION DERIVED WASTE WATER** The Installation Restoration Program (IRP) had developed a groundwater modeling effort to predict and track the movement of contaminants under the base, this modeling program was fed data from about 200 wells both on and off the base. Under requirements of the Santa Ana River Regional Water Quality Board these wells were measured and sampled 4 times each year. This sampling effort resulted in the generation of 400,00 gallons of waste water. This massive amount of water was generated due to a EPA protocol which required the withdrawal of 3 well volumes prior to a water sample being taken. The average well diameter was 6". This volume of water coupled with a contract requirement of \$1.36/gal to dispose of the investigation derived waste water resulted in a yearly cost of about \$544K. Dr. Sabol by working with the EPA and water board was about to reduce this cost to \$8.5K. This saving was accomplished in two ways. First, the GETS was modified to accept this water from large "baker" folding tanks. This reduced the cost per gallon from \$1.36 to \$.17 cents. Second, the use of Grundfos pumps lowered into each well and pumped very slowly 1/2 liter/minute to obtain a sample was utilized. Thus the diameter of the tube filled with water was decreased from 6" to 1/4" . Since the regulators were concerned only with adequate and representative samples, Dr. Sabol was able to change sampling protocols and save the base significant dollars.

JOHN R. SABOL

- o Storage of 2,300 solid propellant rocket motors from deposting of Minuteman II (MMII), Poseidon C-3 (SLBM) to Navajo Army Depot, AZ, 1991
- o All SAC (ICBM) launches from Vandenberg AFB for next 20 years, 1991
- Also Cultural Resources Manager (CRM) for all projects/contacts with American Indians or their land including 106 consultation, 1984-91
- Author of Air Force Guidelines for compliance with Public Law 101-106 (American Indian Grave Protection Act), 1991
- Coordinated all permits necessary for the Air Force construction of missile programs, 1986-1990
- 1981 - 1984 Civil Engineer  
Air Force Regional Civil Engineer Office (AFRCE-BMS/DEE)  
Norton Air Force Base, California 92404
- Project Manager for many large-scale design projects involving Air Force Programs
  - o Peacekeeper Missile Silo Trainer, 3 level, underground, reinforced structure. \$ 6M
  - o Access Roads/Surface Launch Pad sitework for 50 sites used for deployment of Peacekeeper missile. \$50M
  - o Canister Process/Open Storage for missile components, F E Warren AFB, Wyoming, 10,500 SF reinforced concrete bldg. \$ 4M
  - o Stage Storage Facilities, four buildings to provide controlled storage for missile segments. \$ 4M
  - o Rail Transfer Facility. \$ 3M
  - o Defense Access Roads (all roads used to service missile facilities) \$20M
  - o Life Support Requirements necessary to house 25,000 workers necessary to construct 3 new Air Force bases in Nevada/Utah \$ 1B
- Also served as team leader to ten professionals evaluating approximately 20 military bases for deployment of new missile systems.

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## STATEMENT OF QUALIFICATIONS

1984 - Oct. 91 Environmental Engineer

Air Force Regional Civil Engineer Office (AFRCE-BMS/DEVE)  
Norton Air Force Base, California 92409-6448

- Project Manager (PM) for Air Quality, Noise, Land Use including Visual, Recreational and Cultural sections for five major Environmental Impact Statements (EIS).

- o Peacekeeper in Minuteman Silos (PIMS) at F E Warren AFB, Wyoming

- o Legislative EIS for Small Intercontinental Ballistic Missile (ICBM)

- o Peacekeeper in Rail Garrison various locations

- o Small (ICBM) at Malmstrom AFB, Montana

- o Electronic Combat Test Capability at Hill AFB, Utah

- Author of nine Environmental Assessments

- o Testing Program at Vandenberg AFB, California for Peacekeeper in Rail Garrison and Small (ICBM), 1987

- o Missile Launch Car Testing (CALTP) at Hudson and Pubelo, Colorado, 1988

- o Small (ICBM) Testing at Malmstrom AFB, Montana, 1989

- o Ultra High Frequency (UHF) Radio Testing for Small (ICBM) within Wing I Deployment Area, Malmstrom AFB, Montana, 1990

- o Interim Use of Hanger 673 at Norton AFB, California by Lockheed Corp, 1990

- o Holmes-Herford Easement Acquisition, Wyoming (mandated by Air Force Regulations and court requirements) in 1990

- o Establishment of Environmental Services Agency at Brooks AFB, Texas, 1991



JOHN R. SABOL

1979 - 1981 Chief, Environmental and Contract Programming  
George Air Force Base, California

- Promotion included provision that I work as Community Planner and Chief for a year.
- Directed the installation's community, environmental protection, natural resources and contract planners by (a) assigning duties and responsibilities (b) outlining the overall objectives, (3) providing guidance on critical problems and policy changes, (d) reviewing work to ascertain the degree to which assigned objectives are being achieved, and (3) ensuring that work has been adequately coordinated. Interviewed, selected, and indoctrinated new employees. Recommended and/or maintained office personnel records.
- Provided overall management as well as executive leadership in the Installation Environmental Planning Process. Ensured compliance with applicable laws, directives and regulations and all environmental planning matters carried out as part of a coordinated process. Prepared agendas for, making presentations to and serving as the Executive Secretary of the Installation Facilities Board. Serve as the Executive Secretary of the Installation Environmental protection Committee ensuring that EPC members are appointed on orders, that EPC members have attended or are scheduled to attend the AFIT EPC Members Course and prepares and distributes EPC minutes and agendas.
- Provided overall management as well as executive leadership in the contract planning process. Prepared and maintained plans and programs for all work done by contract.
- Managed the implementation and maintenance of the Interagency/Intergovernmental Coordination for Environmental Planning (IICEP) program, ensuring that all plans, programs and/or activities were properly coordinated with designated agencies. Maintained continuous coordination with counterparts as Air Force Regional Civil Engineers, major command and other DOD installations within the state or region, ensured that environmental planning activities conducted by other governmental agencies in the vicinity of the installation were closely monitored for consistency with Air Force activities and for potential conflicts and that appropriate corrective action is taken.
- Reviewed, coordinated, and assisted in the preparation of all environmental planning and contract planning, programs and documents, such as Base Comprehensive Plan, Air Installation Compatible Use Zone (AICUZ), IMB Circular A-91, socioeconomic analysis, airfield and airspace, explosive safety, OMB Circular A-106, air pollution, water pollution, air quality assessments, Air Quality Assessment Model (AQAM), solid waste, noise pollution, fish and wildlife, forest management, outdoor recreation and cultural resources, land management, grazing and agricultural outleasing, landscape development, endangered species, and pesticide use and control (to ensure consistency and compliance), DD Forms 1391/1391C, MAREMIC Report, utilities conservation, and contract funds budget. Ensure that environmental planning



JOHN R. SABOL  
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factors are adequately considered and that they are consistent with all installation environmental planning requirements, operating instructions, regulations, construction programs, operations plans, Environmental Assessments and Environmental Impact Statements, budget estimates and funded programs, NPDES applications prepared by the base, environmental protection permits and consent declarations, survey reports, audits, inspection reports, and special requirements from higher headquarters.

1978 - 1980 Community Planner  
George Air Force Base, California

- Functioned as the installation focal point for community, regional, urban, comprehensive and land use planning by: (a) formulating plans and implementation techniques and developing a board base of strategies and procedures necessary to the successful conduct of the installation comprehensive planning process, (b) serving and advisor to the installation commander, base civil engineer and all base elements on the comprehensive planning process, (c) representing the Air Force with authoritative advice and evidence on the comprehensive planning process, (c) representing the Air Force with authoritative advice and evidence on comprehensive planning matters affecting the installation at local and regional public meetings and hearings, and at other interagency meetings by utilizing knowledge of participatory process, negotiation, planning methodology, federal and state law, local ordinances and principles and practices of city, urban, and regional planning, (d) maintaining continuous coordination with Air Force regional civil engineer, major command, Air Force civil engineering center, Air Force commissary service, and Army, Air Force exchange service and other DOD installation counterparts within the state and/or regions.
- Managed the development, preparation, implementation, and maintenance of the installation comprehensive plan through a participatory process involving all segments of the installation community.
- Managed the development, preparation, implementation and maintenance of the Air Installation Compatible Use Zone (AICUZ) program working directly with the installation commander and appropriate staff.
- Managed the implementation of the Interagency/Intergovernmental Coordination for Environmental Planning (IICEP) program.
- Managed the implementation and maintenance of the OMB Circular A-95 program.
- Reviewed and coordinated, as well as assisted in the preparation of the following to ensure that comprehensive planning factors were adequately considered and that they were consistent with the installation's Comprehensive Plan, the AICUZ, IICEP, and OMB Circular A-95 requirements.