



**D&B ENGINEERS  
AND  
ARCHITECTS, P.C.**

**Corporate Office:**

330 Crossways Park Drive  
Woodbury, NY 11797  
Tel: 516-364-9890  
718-460-3634  
Fax: 516-364-9045

**Regional Offices:**

4 West Red Oak Lane  
White Plains, NY 10604  
Tel: 914-467-5300  
Fax: 914-467-4658

11 Oval Drive, Suite 100  
Islandia, NY 11749  
Tel: 631-265-8921  
Fax: 631-265-8961

5879 Fisher Road  
East Syracuse, NY 13057  
Tel: 315-437-1142  
Fax: 315-437-1282

3000 Hadley Road  
South Plainfield, NJ 07080  
Tel: 908-668-4747  
Fax: 908-668-4658

8 Neshaminy Interplex,  
Suite 219  
Trevose, PA 19053  
Tel: 215-244-9972  
Fax: 215-344-9977

11 N. Pearl Street, Suite 1106  
Albany, NY 12207  
Tel: 518-636-6912

## Outdoor Firing Range Management Services

### SERVICES INCLUDE:

*Site/Exposure Assessments*

*Treatability Studies and Pilot Tests*

*Remedial Design*

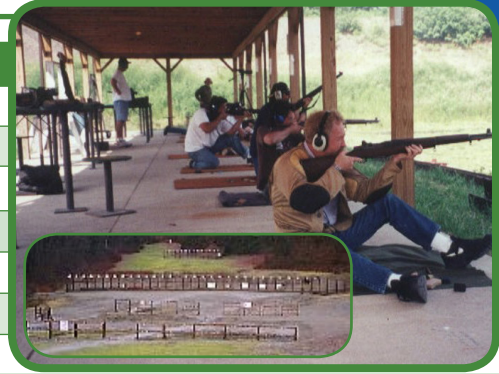
*Construction Oversight*

*Regulatory Analysis*

*Management Strategies*

*Best Management Practices*

*Feasibility Studies*



With over 25 years' experience conducting hazardous waste site and exposure assessments, treatability and feasibility studies, and remedial design assignments, D&B Engineers and Architects, P.C. (D&B) assists municipalities and private sector clients explore available options to improve the overall management of outdoor rifle, pistol and shotgun ranges. Our team of experts bring this experience and knowledge to bear in addressing the potential liability and environmental issues associated with managing active and inactive firing ranges.

While firing ranges are often considered somewhat of a regulatory gray area, the D&B team typically initiates its evaluation with a site/exposure assessment of the range. This evaluation identifies the range's characteristics, such as the degree and extent of any lead contamination, soil types, operational practices, depth to groundwater, and the presence of environmental receptors like wetlands and water bodies as possible pathways to human and ecological exposure.

Once these parameters are defined, D&B identifies the potential regulatory liabilities with respect to the Clean Water Act, the Resource Conservation and Recovery Act (RCRA), and the Comprehensive Environmental Response, Compensation, and Liability Act—or Superfund—by completing a regulatory impact analysis. The regulatory impact analysis is designed to provide careful consideration of the near- and longer-term operational status of

the range, since this variable can dramatically affect the results of the management strategy.

With this information in hand, a management strategy can then be developed to improve the operation and maintenance of the range with the goal of reducing environmental and legal liability. This same model, with some modifications due to the RCRA hazardous waste management implications, can be utilized to address firing ranges that are temporarily out of service or plan to close.

Whether continuing the operation or planning to close the firing range, the management strategy that has been developed will be consistent with the U.S. Environmental Protection Agency's Best Management Practices (BMPs) guidance document. This document generally includes the development of a work plan identifying specific BMPs to prevent lead migration, the design and implementation of engineered shot containment techniques, and, perhaps most importantly, the development of a lead removal, separation and recycling program. If "hot spot" cleanup is required due to the site assessment, D&B can assist in the design and implementation of a treatability study to evaluate appropriate remedial technologies for soil washing, vacuuming, screening, sifting and/or raking techniques.

D&B further assists clients by evaluating the results of the treatability study, recommending the most feasible technology and preparing plans and specifications to obtain price quotations from qualified contractors for the recommended technology. If needed, D&B can provide oversight of the remedial construction phase of the project.

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