



FIRM OVERVIEW

STONE SECURITY ENGINEERING, PC

Stone Security Engineering (Stone) is an internationally recognized small, woman-owned business enterprise focusing on safety and security design to protect people, buildings, and other structures from abnormal loadings such as blast, weapons effects, ballistics, forced entry, vehicle ramming, and progressive collapse events. From our primary offices in New York and Washington, DC, and our satellite office in Texas - our team of professional engineers have participated in vulnerability, threat, and risk assessments. Collectively, they have over 145 years' experience in protective design.

Projects have included retrofits on existing and new construction for multiple agencies of the US Federal Government. Our team have been engaged by the Departments of State, Defense, Justice, Homeland Security, and Veterans Affairs; General Services Administration; International NGOs (United Nations, Asia Development Bank); along with governmental, commercial, and industrial clients worldwide. Stone is also deeply involved with research and development of protective products and materials – using a combination of analysis and abnormal load to validate the required performance of the material or product.

We take pride in tailoring solutions for each endeavor to the overall project and owner requirements. Our past performance references and strong client endorsements exemplify the team's commitment to consistently achieving measurable results for our customers in all aspects of physical security and protective design.





SERVICES

Stone Security Engineering is a specialized provider of safety and security engineering, focusing solely on helping their clients mitigate the effects of accidental and intentional hazards. Our team of experienced engineers is devoted to leveraging our extensive knowledge and applying it to the needs of the industry.

- Security Design and Analysis
- Multi-Threat Risk Assessments
- Security-related RFP and Solicitation Document Development
- Industrial Risk Assessments
- Explosive Safety
- Weapons Effects Mitigation
- Abnormal Load Testing
- Criteria and Standards Development
- Research, Development, and Testing
- Planning
- Post-Event Evaluation
- Training

PROJECT TYPES

Our team provides numerous multi-building assessments of large inventories for various government and institutional clients to assist with their planning process.

Stone's portfolio includes a variety of project types, including:

- Federal Buildings and Courthouses
- US Military installations (CONUS and OCONUS)
- Mission Critical Facilities
- Iconic High-rises in Urban Environments
- Ammunition Storage Facilities
- Compounds in Hostile Environments
- Transportation Hubs and Airports
- Land Ports of Entry
- Infrastructure
- Post-Blast Assessments of Commercial and Institutional Buildings and Industrial Plants
- Vendor Support for Detailed Analysis of Building Components
- Research and Development of Innovative Materials and Applications of Existing Materials
- Blast, Ballistic, and Forced Entry Testing

Our Engineers have dedicated their careers to protective design engineering, often our team is responsible for writing the criteria and standards required to protect people and buildings. This intimate knowledge provides us with a unique perspective when designing and assessing buildings - allowing us to think creatively and adapt, instead of spending precious time trying to understand the criteria.



SOFTWARE & COMPUTATIONAL ANALYSIS TOOLS

Stone has extensive experience predicting and assessing explosive effects from internal and external detonations and analyzing building elements exposed to them. The following are some of the analytic tools used:

- Explosion Effects Analysis: Commercial and government software such as Conwep, SHOCK/FRANG, BlastX and Prosair (computational fluid dynamics software)
- Debris, Risk, and Siting Assessment Tools: MUDEMIMP, SAFER, VAPO
- Dynamic Structural Analysis: SDOF tools such as SBEDS, SBEDS-W, WINGARD, or FEA tools such as DYNA-3D, LS-DYNA, SAP

Additionally, Stone has developed an in-house tool sBlast® which includes blast load evaluation and building performance which is used for the analysis and design of challenging projects under specific conditions that cannot be assessed using the with standard tools.

IDIQ CONTRACTS

PRIME CONTRACTOR

- IDIQ A/E Structural and Blast Eng. Services for the Public Building Services | Nationwide

SUBCONSULTANT

- Louisville USACE IDIQ
- NIST IDIQ
- NAVFAC Washington IDIQ
- Architect of the Capitol IDIQ
- USACE Baltimore IDIQ

CLIENT TYPES

- US Army Corps of Engineers
- Department of Defense
- General Services Administration
- US Department of State

BUSINESS INFORMATION

- Woman-Owned Small Business
- SAM Unique Entity ID - FRC6XMREKL83
- CAGE - 59L35
- NAICS - 541330 (Primary), 541690, 541380, 541712, and 541715



PROTECTIVE DESIGN SERVICES - US MILITARY FACILITIES

STONE SECURITY ENGINEERING

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Projects have included work on existing and new construction for multiple agencies of the US Federal Government including the Department of Defense (DoD), Border Stations, Aviation and Port Authorities for major metropolitan cities, and multi-national commercial and industrial corporations. Stone takes pride in tailoring solutions for each endeavor to the overall project and owner requirements. Our past performance references and strong client endorsements exemplify the team's commitment to consistently achieving measurable results for our customers in physical security master planning and compliance, consulting, and design engineering services.



Stone has played a key role in establishing practice guidelines for secure design, blast, and Anti-Terrorism/Force Protection (AT/FP) criteria. This includes authoring the original General Services Administration (GSA) Facility Security Requirements for Explosive Devices Applicable to Facility Security Levels III and IV, and GSA's Interpretation of the Interagency Security Committee Physical Security Criteria. We have also developed and updated the physical security, blast, and AT/FP criteria related to Unified Guide Specifications for DoD.



Stone has an extensive record of supporting the US Federal Government in developing and implementing AT/FP requirements and blast, ballistic, forced entry, weapon effects, vehicle ramming, and progressive collapse design and construction mitigation measures into DoD facilities domestic and international. Stone's clients and projects include many DoD efforts, including direct support as a prime blast and AT/FP consultant for the US Army Corps of Engineers Protective Design Center – assisting them in developing Unified Facilities Guide Specifications, blast testing, criteria review and development. Stone is also supporting multiple IDIQ contracts as a specialized AT/FP and blast sub-consultant to A/E firms and General Contractors.

DESIGN GUIDELINES

- UFC 3-340-02, "Structures to Resist the Effects of Accidental Explosions"
- UFC 3-340-01, "Design and Analysis of Hardened Structures to Conventional Weapon Effects"
- PDC-TR 06-08, Single Degree of Freedom Structural Response Limits for Antiterrorism Design
- UFC 4-010-01, "DoD Minimum Antiterrorism Standards for Buildings"
- UFC 4-023-03, Design of Buildings to Resist Progressive Collapse
- International Building Code
- ACI and AISC Design Codes and Guidelines

ASSESSMENT & DESIGN TOOLS

- Blast load definition and CFD tools: BlastX, ConWep, SHOCK/FRANG, ProSAir, sBlast®
- Building debris hazard, risk evaluation, and siting tools: MUDEMIMP, SAFER
- Non-linear structural dynamic SDOF tools: SBEDS, SBEDS-W, HAZL, WINGARD, sBlast®
- Non-linear structural dynamic FEA tools: DYNA-3D, LS-DYNA, SAP

Depending on the required level of protection, performance criteria and project requirements, Stone can support the design or design-build team to conduct AT/FP assessments, extreme loading effects and mitigation studies, develop conceptual and detailed protective design package submissions required for review and approval by the regulatory agencies. Protective design submissions include construction details and material requirements, structural and architectural façade profiles, and vendor product performance criteria and specifications. Stone also provides construction administration services for review of vendor submittals, construction inspection services for compliance with protective design requirements, and extreme-load testing and performance validation of specialized products or mitigation measures.

Please contact us directly at info@stoneseng.com to request more information on our DoD Protective design project portfolio and key team staff experience for AT/FP, blast, ballistics, forced entry, weapon effects, vehicle ramming, and progressive collapse assessments and protective design mitigation services.



EXPLOSIVES SAFETY, BLAST, & WEAPON EFFECTS SERVICES

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Our engineers have extensive domestic and international experience in explosives safety site planning, blast loading and weapon effects computations, structural dynamic analysis, retrofit, and/or new design of protective design structures. Our clients include industrial facilities, explosives and weapons manufacturers, military agencies, architects, design-builders, and specialized vendor product manufacturers. The types of above or underground structures we typically design include control rooms, warehouses, munitions and weapon manufacturing, storage and handling facilities, containment or test cells, research facilities, firing ranges, training facilities, military bunkers, and command centers.

Whether you are constructing a single new explosives storage cell, trying to master plan and decide how to configure a series of energetics laboratories within an occupied building, or needing to expand your explosives storage, testing, or manufacturing production, Stone can support explosives safety assessment and planning requirements, assess blast and extreme loading hazards effects, and develop mitigation strategies and designs for compliance with DDESB, NAVSEA OP 5 or other pertinent domestic or international project safety and security design requirements.

DESIGN GUIDELINES

- DA PAM 385-64 (US Army), "Ammunition and Explosives Safety Standards"
- DoD 4145.26-M, "DoD Contractor's Safety Manual for Ammunition and Explosives"
- DESR 6055.09/DoD 6055.09-M, "DoD Ammunition and Explosives Safety Standards"
- NAVSEA OP 5 (US Navy), "Ammunition and Explosives Safety Ashore Regulations for Handling, Storing, Production, Renovation and Shipping"
- AASTP-1, "NATO Guidelines for the Storage of Military Ammunition and Explosives"
- UFC 3-340-02, "Structures to Resist the Effects of Accidental Explosions"
- UFC 3-340-01, "Design and Analysis of Hardened Structures to Conventional Weapon Effects"

ASSESSMENT & DESIGN TOOLS

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Depending on the required level of protection (e.g., protect nearby personnel and facilities, prevent explosion propagation to adjacent cells from accidental scenarios, protect critical underground facilities from bomb and weapon attacks, rigid facilities and infrastructure supporting testing and training operations on explosives and weapons), Stone can support the design or design-build team to conduct explosives safety studies, blast/weapon effects assessments and mitigation studies, develop conceptual and detailed protective design package submissions required for review and approval by the regulatory agencies. Protective design submissions include construction details, structural profiles, material specifications, reinforcement details, venting requirements and vendor product performance criteria and specifications. Stone also provides construction administration services for review of vendor submittals, construction inspection services for compliance with protective design requirements, and extreme-load testing and performance validation of specialized products or mitigation measures.

Please contact us directly at info@stoneseng.com to request more information on our Explosives Safety, Blast, and Weapon Effects Services project portfolio and key team staff experience for AT/FP, blast, ballistics, forced entry, weapon effects, vehicle ramming, and progressive collapse assessments and protective design mitigation services.