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Rapid Response



## Sediment Grade Control Structures at Los Alamos National Laboratories


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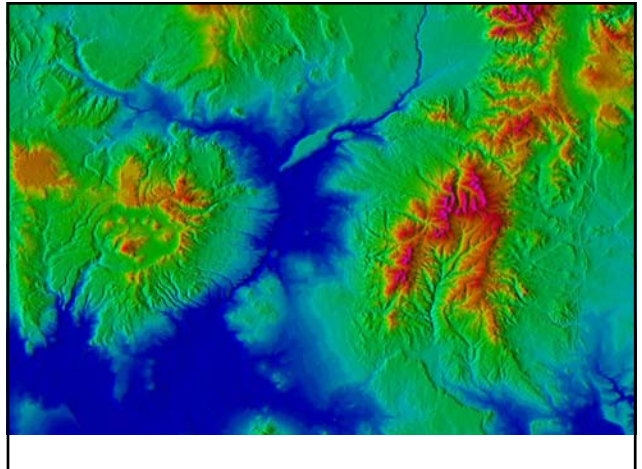
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### Agenda

- Project Background
- Security, Disaster & Infrastructure Construction (SDIC) Contract
- Solution
- Lessons Learned
- Questions & Answers





**Project Background**

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- Los Alamos National Laboratory (LANL)
  - Founded in 1943
  - Trinity, Little Boy and Fat Man
  - Recent research: stockpile stewardship, vaccinations, human genome project, IED and mine detection
- Environmental Concerns
  - Polychlorinated Biphenyls (PCBs): Aroclor<sup>1254</sup> and Aroclor<sup>1260</sup>
  - Radionuclides: Plutonium<sup>240</sup>, Plutonium<sup>239</sup>, Uranium, Strontium, Americium and Cesium
- Contaminant Transport
  - Wind
  - Flash floods
  - Forest Fires: Cerro Grande Fire, May 2000 and other recent fires



## Project Background

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- Compliance Order on Consent
  - Between NMED and DOE
  - Signed January 2008 by LANL
  - December 31, 2009 deadline
  - 50-year flood events in Pueblo and DP Canyons
  - Subject to monetary penalties
- LANL contacted USACE Sacramento District in February 2009
- Sacramento District contacted Omaha District in March 2009
- Omaha District received program resources in May 2009
- SDIC contract

## SDIC Contract

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### Best Value Contract

- Multiple Award Task Order Contract (MATOC)
  - Full and open competitive process
  - RFQ: Technical and pricing components
  - In-person interviews including sample problem
  - Three contracts awarded: URS, KBR & Weston Solutions
- All task orders are competed
  - RFP: Technical and pricing components
  - TO selections made by USACE and the customer

## SDIC Contract

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### SDIC Contract Overview

- Rapid response contract for time-sensitive projects
- Open to all US Government customers
- Managed by the USACE Omaha District
- Scope primarily construction but can include design
- Either firm-fixed-price or cost-reimbursable
- \$490 MM capacity
- USACE small business, quality and safety requirements

## SDIC Contract

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### Projects

- World-wide
- Horizontal and vertical construction or renovation
- Non-classified and classified
- AT/FP improvements
- UXO and environmental requirements
- Disaster assistance
- Bid-Build or Design-Build

## SDIC Contract

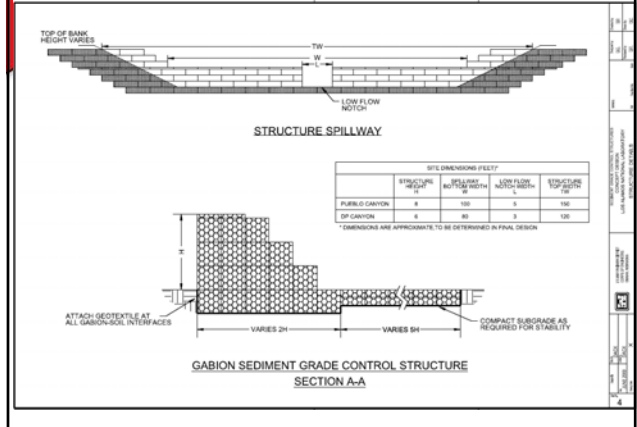
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### SDIC Task Order Examples

- Marina construction in Garrison, ND
- Primary Entry Point (PEP) Expansion facilities in 32 US locations
- Water main construction for Holloman AFB, NM
- Renovations at a classified location
- Steam tunnel renovations at West Point, NY
- Fuel tank repairs at Mountain Home AFB, ID
- Sediment control structures construction at Los Alamos, NM

## Solution



## Solution

### Solution Concept

- Slow flash flood and runoff waters
- Encourage wetland growth



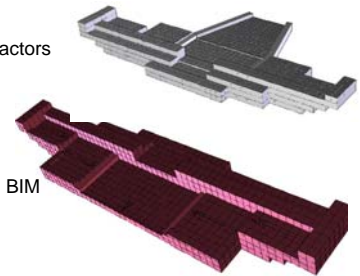
## Solution

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### Task Order Proposal

- Design-Build Team
  - A/E
  - Construction Subcontractors
- Qualifications
- Schedule
- Innovation
  - Conceptual Solution in BIM
  - Cost Efficiencies



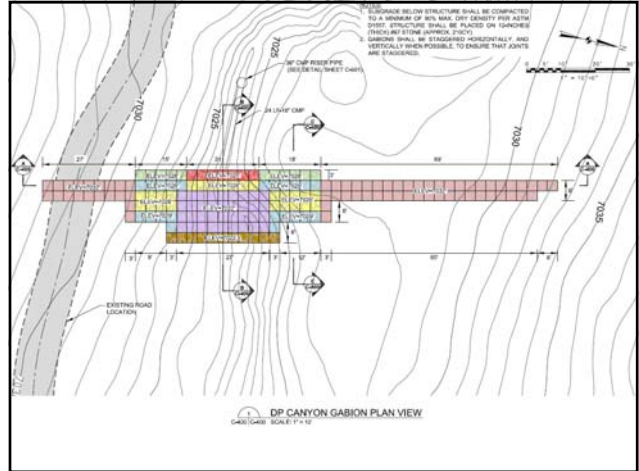
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**Site & Environmental Considerations**

- Biological Concerns: wetlands and animals
- Cultural Concerns: archeological, Native American Pueblos, and historical trail
- Permitting Concerns: State 401 and Federal 404
- Construction Concerns: contaminant levels, SWPPP, and laydown area limitations



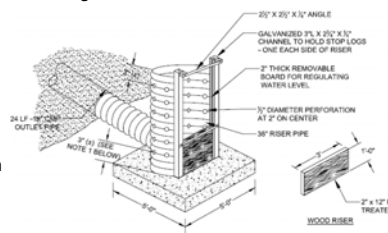
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**Engineering**

- Hydrology Modeling
  - Watershed boundary and sub-basin delineations
  - Rainfall-runoff calculations
  - Channel and detention routing
- Geotechnical
  - Soil and rock strata
  - Geohydrology
- Structural Solution
  - Final dimensions
  - Short term retention
  - Future flexibility
- Value Engineering









## Lessons Learned

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- Two Step (RFQ and RFP) Process Works
  - Three highly qualified teams
  - Timely and efficient evaluation process
  - Customer involvement
  - Decreased cost for all stakeholders
- Involve Designers and Construction Contractors Early
  - Develop conceptual solutions
  - Identify constructability issues, local techniques, materials and regulatory requirements
  - Decreases cost

## Lessons Learned

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- Urgency Does Not Trump Proper Procedures
  - Project management plan
  - Site master plan
  - Partnering session!
- Understand Performance vs. Prescriptive Specifications
  - Owner's Role
    - Prescriptive: approval
    - Performance: compliance
  - Cost-reimbursable vs. firm-fixed-price
  - Ownership, quality & warranty implications

## Lessons Learned

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- Design-Build Projects Require the Right People
  - Design-Build PM
    - Design Manager
    - On-site personnel
  - USACE PM
  - Client PM
- Design-Build, Fast-Track Projects Require Trust
  - Contractor suggested alternatives and betterments
  - "Over-the-shoulder" or "on-board" design reviews
  - Frequent price negotiations
  - Partnering and teaming accelerated schedule



## Questions & Answers

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- Great contract, project delivery and people
- Meaningful project
- Beautiful region
- Questions?

