Formal Value Engineering

A Project Management Tool

Value Engineering
It’s Not What You Think It Is

John Eblen, PLA, VMA

- District Value Officer
  USACE Europe

Al Adelgren, PE, CVS-Life

- Expert Services Group
  Crawford Consulting Services
- Vice President
  SAVE International

Formal Value Engineering

- Who are we?
- What is Value Engineering?
- Why perform VE project reviews?
- What are the expected results?
- How is it done?
- When should VE be performed?
- Where has VE been applied?

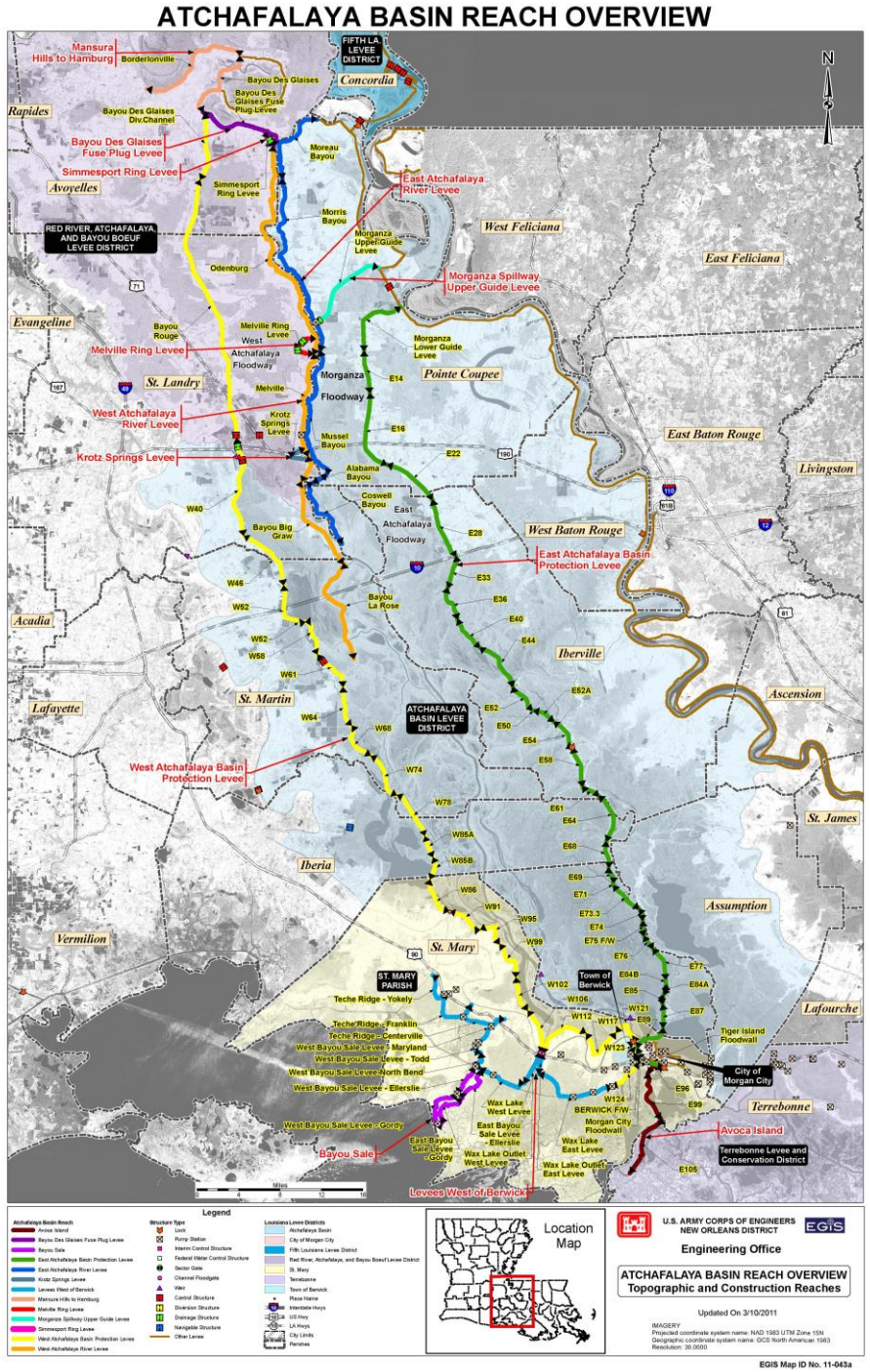
Who? - John Eblen

- PCS to NAU in June 2024
- From New Orleans, Louisiana, Live in Slidell, LA
- Bachelor of Landscape Architecture from LSU
- Licensed Professional Landscape Architect
- Over 37 years total professional experience
  - 21 Years as a Landscape Architect
  - 16 years with USACE
    - 9 years Project Management
    - 7 years District Value Officer (DVO)
- Past DVO at MVN, New Orleans District (2 years acting RVO for MVD)
- Value Methodology Associate, SAVE International

Who? - John Eblen

How did I get into VE?

- VE workshops for Atchafalaya Basin Construction Project as PM
  - Charenton Floodgate VE
  - Atchafalaya Basin Programmatic VE
  - W124 Levee lift VE
- 2016 offered asst DVO as PM
  - VE Prospect class (VMF 1)
  - VE Management Course
  - SAVE Conference 2016
- 2018 selected DVO MVN 1st year….
  - BUDMAT VE internal to USACE
  - Carrolton FW VE
  - Old River Gantry Crane VE
  - Southwest Coastal Louisiana VE



Who? - John Eblen

***Favorite* VE Story?**

- West Shore Lake Pontchartrain
  - Hurricane Storm Risk Reduction (HSDRRS)
- # of contracts, different scope: VE strategy – 3 VE studies
  - St. James Parish
  - Pump Stations
  - Levees & Floodwalls
- Spring 2020 - ***COVID***
- All Virtual Workshops
  - Beginning of May 2020
  - End of May 2020
  - July 2020

Who? - Al Adelgren

- Colorado native
- Over 40 years total professional experience
  - Design Engineering & Construction Management
  - Facilities Operations & Management
- Licensed Professional Engineer (Mechanical)
- Certified Value Specialist (1994; Life 2007), SAVE International (USA)
- Professional in Value Management, Institute of Value Management (UK)
- Over 33 years VE experience
  - 450 value improvement efforts – construction and business systems
  - Reviewed over $36 billion capital construction projects
  - Identified nearly $6 billion project value improvement opportunities
- SAVE International
  - Member since 1992
  - Director Honors & Awards, College Relations and Certification Board member
  - Current Vice President / President Elect

VE - How did I get here!? - Al Adelgren

Flight Simulator Complex, Fliegerhorst Kaserne, Feb ‘88

- Multiple platform rotary wing aircraft flight simulators
- Post HVAC systems restoration O&M support
- Contractor convinced Bauamt to accept VECPs… bad idea!
  - Cooling systems failure
  - Heating systems compromised
- Fliegerhorst BRAC’d reverted to HN in ’94

VE - How did I get here!? - Al Adelgren

Nuclear Decontamination Laundry, DOE Hanford Site, Late ‘91

- Nuclear PPE clothing laundry
  - Cotton coveralls, underwear, etc.
- M&P design lead
  - Multiple stage HEPA air filtration
  - Waste water recovery and transfer
- Most VE proposals were applicable to commercial / industrial laundries (i.e., recycle water, reclaim heated air, etc.)
- VE process demonstrated alternative idea creation

Who? - Al Adelgren

Wildest VE Story?

- Kabul, Afghanistan – Feb ’12
- Double project workshop – battalion size compounds
- Delayed 2-days due to weather
  - Third Dubai hotel was a brothel?
- Major protests on arrival
- Mob attacked compound
  - Multiple casualties
  - Fuel truck exploded opposite side of wall from offices

Who? - Al Adelgren

Favorite VE Story?

- Los Lunas, NM – Sep ’22
- New E-W roadway – interstate connection and river crossing
- Funding constraints
  - $226 Mil budget; $100 Mil funded
- Planned is sequential phases
- VE reconfigured for end-to-end
  - Full width river crossing
  - Widen roadway in phases
  - $130 Mil post VE configuration

Who? - Al Adelgren

Favorite VE Story?

- DPTA, Poland – Feb ’16
- Contractor led design-build
- 42 small projects
  - Live firing range improvements
  - Maintenance shops & warehouse
  - Tank road repair, drainage culvert
  - 24 months POP
- Significant work restrictions
- Reconfigured as pre-fab to avoid weather and regulatory issues
- Contract completed 1-year early

What is Value Engineering?

An organized study of functions
to satisfy the user's needs
with a quality product
at the lowest life cycle cost
through applied creativity

According to Public Law 111–350:
Value Engineering means an analysis of the functions of a program, project, system, product, item of equipment, building, facility, service or supply of an executive agency using a systematic team approach directed at:

- Improving Perfomance
- Improving Reliability
- Improving Quality
- Saving time
- Expanding Proficiency
- Decreasing Life Cycle Costs
- Improving Safety
- Using resources effectively

What is Value?

$$Value = \frac{Function}{Resources} \quad (e.g., \frac{Performance/Quality/Maintainability}{Cost/Time/Manpower})$$

What is Function?

"If I can't get the product, how do I get the function?"

~ Lawrence D. Miles

What? - Value Engineering History

- Concept originated during WWII as a systematic approach to handling material shortages by ***Larry Miles – General Electric***
- 1957, Navy's Bureau of Ship Building established first formal VE activity
- 1959, Added to the ASPR (forerunner of today's FAR)
- 1963, DoD established program (DoD Handbook H111)
- ***1964, USACE issues ER 11-1-21, Value Engineering***
- 1988, OMB Circular A-131 issued
- 1993, OMB Circular A-131 mandated use of VE by all agencies
- 1996, National Defense Authorization Act of FY1996 (P.L. 104-106, Sec. 4306), "Each Executive Agency shall establish and maintain cost-effective value engineering procedures and processes.

What? - Recent USACE Timeline

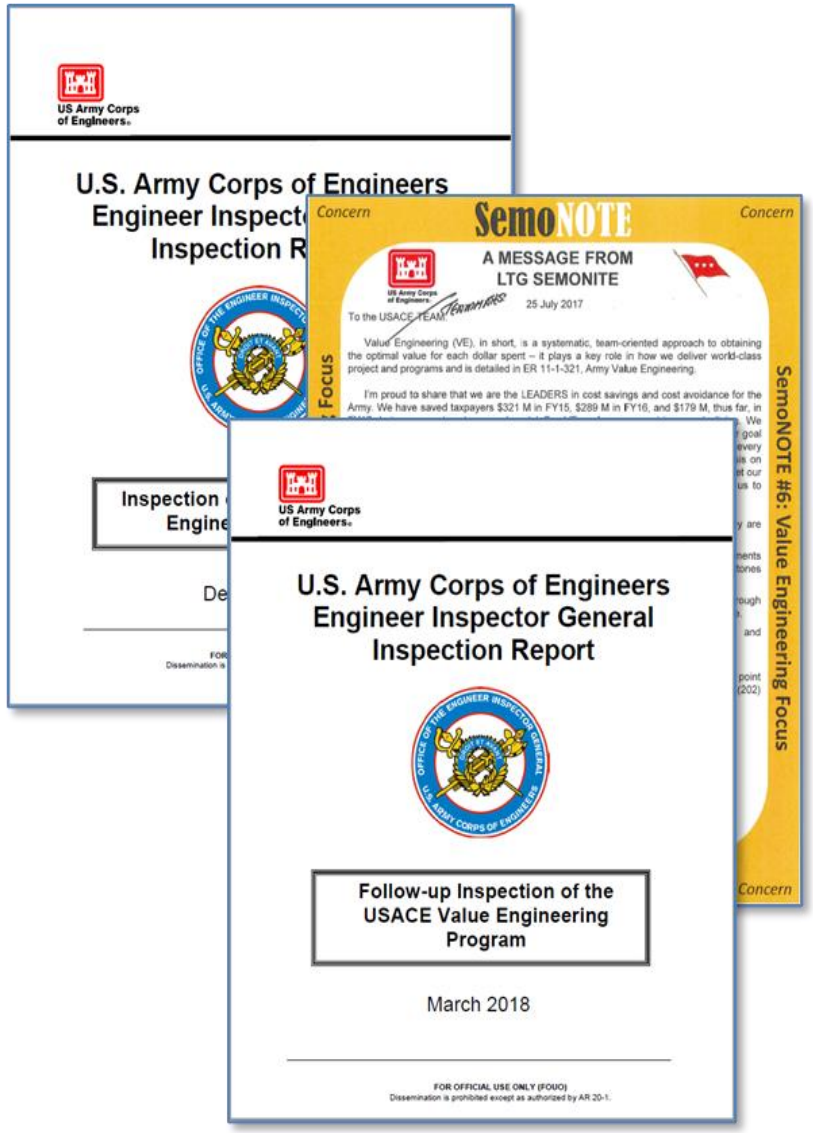
Dec 2014: Engineer Inspector General (EIG) Inspection of the USACE VE Program

- Findings – failures with resourcing positions and fulfilling OMB directives
- LTG Bostick directed field to implement EIG's recommendations

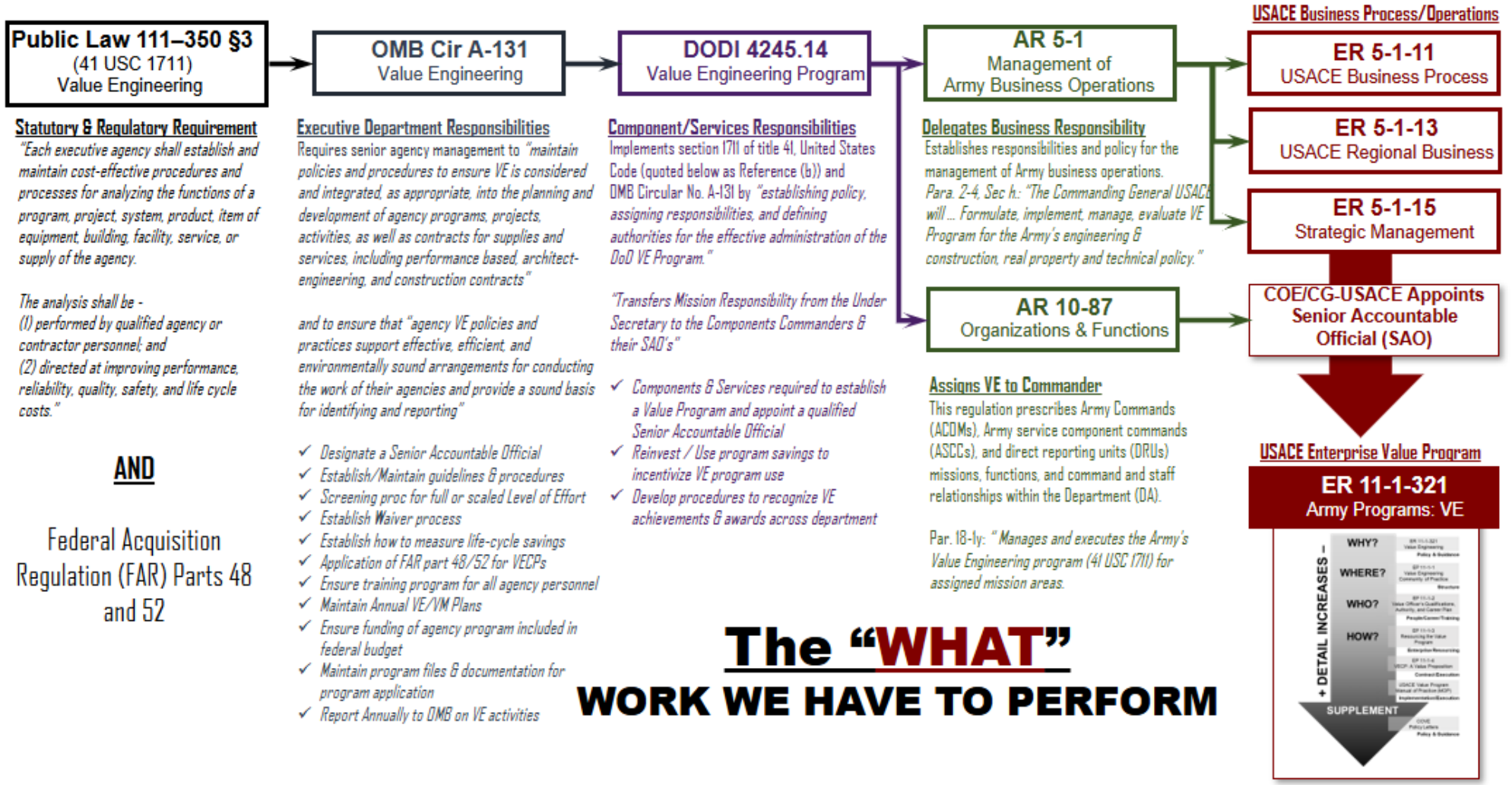
July 2017: LTG Semonite issued SemoNOTE #6, Value Engineering Focus, to "get us back on track"

Mar 2018: EIG Follow-Up Inspection Published

- Twelve original recommendations not addressed
- LTG Semonite directed field to implement recommendations

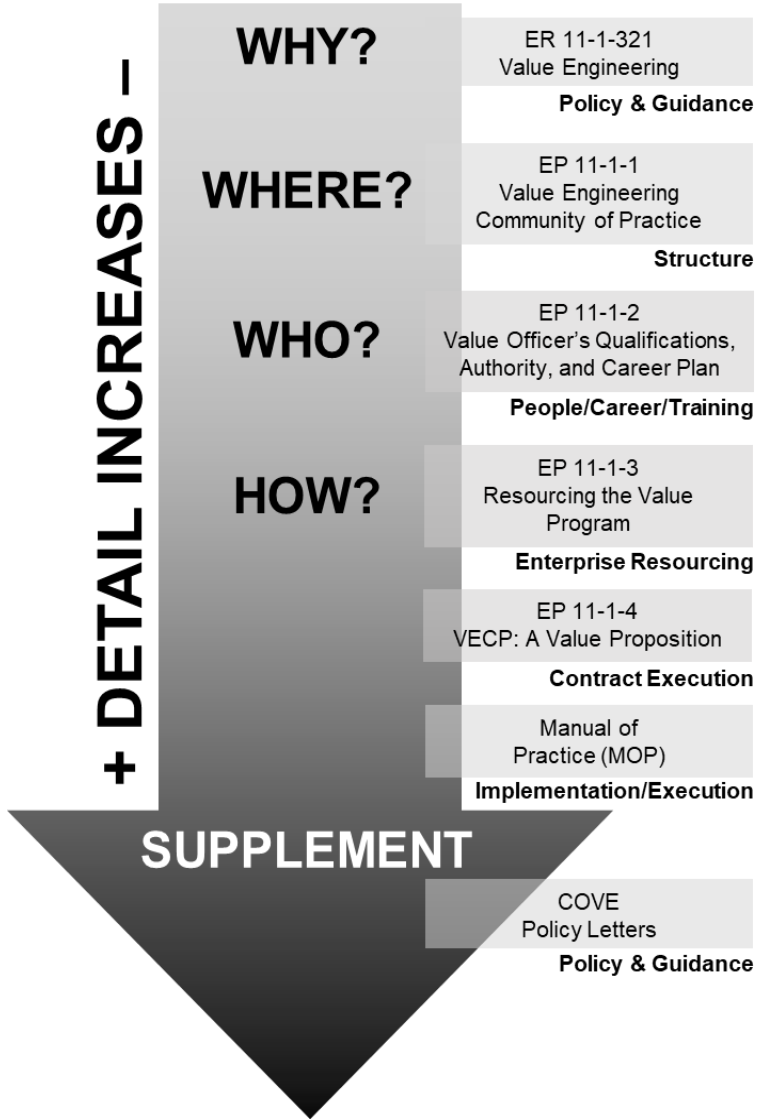


Why? – USACE VE Statutory & Regulatory Req'ts



How? – USACE VE Policy/Guidance

- Engineer Regulation 11-1-321, *Army Programs, Value Engineering*
- Engineer Pamphlets
  - functional, instructional, or procedural guidance needed to implement programs or systems directed in regulations†
- COVE Policy Letters
  - Immediate information
  - Policy changes between ER, EP updates

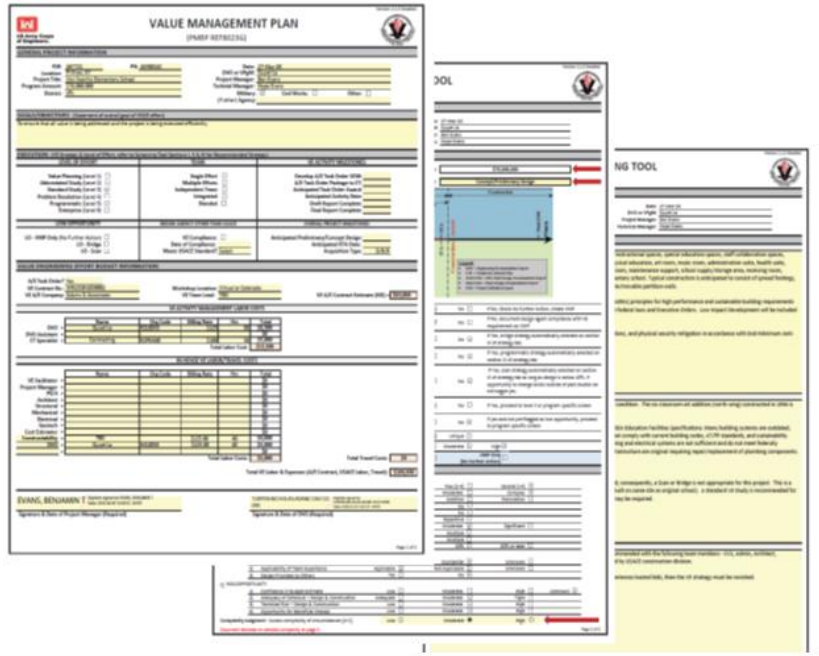


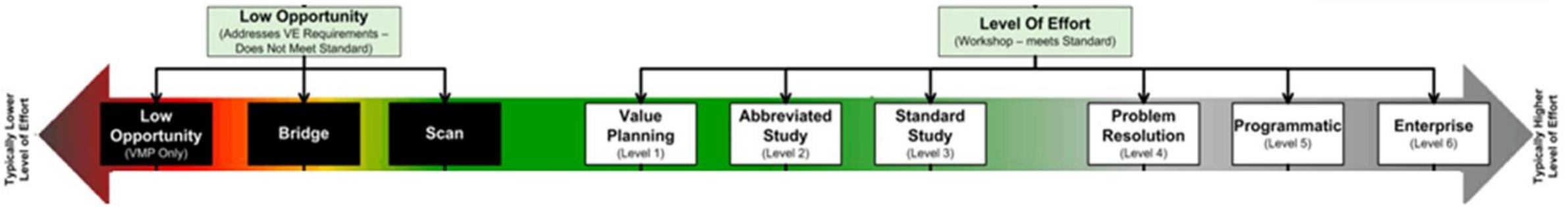
How? – Value Management Plan (VMP)

Screening & Strategy Selection

$2M Threshold for VE requirement

- The VMP documents the VE strategy
  - VE Low Opportunity (LO)
  - VE LO Scan/Bridge
  - VE Study Workshop
- VE Study is best at 35% Design for Direct Project
- VE Study is best before the BAUAMT for Indirect Project (e.g., 15% Design for MILCON)





What? - VE Expected Results

- Formal VE is NOT:
  - Cost cutting
  - Scope reduction
  - Design QC Review
- Formal VE is:
  - Systematic review of a subject process, product or project
  - Intended to improve project net value
- What is Value?
  - Ratio of Function vs Resources
    or Benefit (Worth) vs Cost

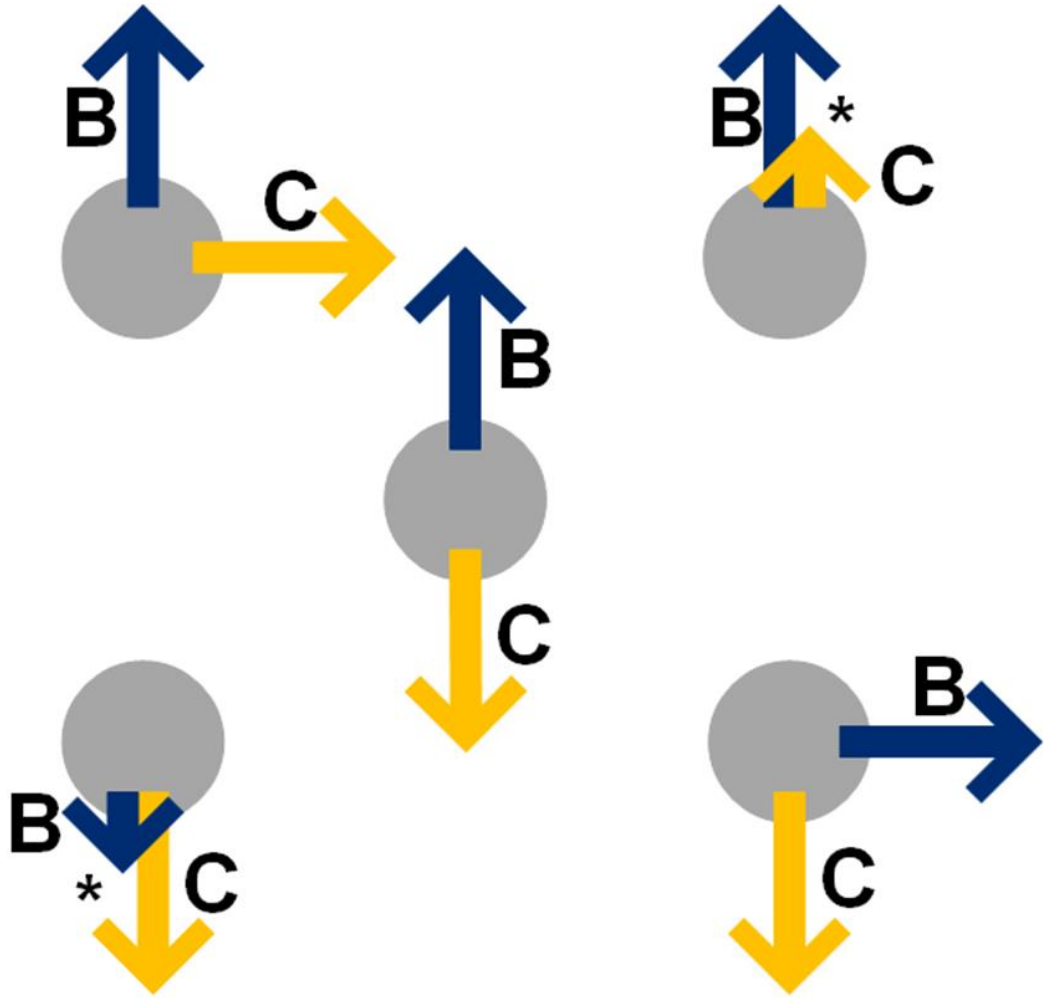
$$\text{Value} \approx \frac{\text{Function}}{\text{Resources}}$$

What? – Expected Results

Improve Performance While Meeting Project Budget

- B = Benefits/**Function**
- C = Cost/**Resources**

* Balance between change in Performance (Benefits) and Cost must be favorable



What? - VE Expected Results

- Independent validation of overall design approach
- Identification of potential value improvement opportunities
  - Cost avoidance changes, initial construction cost savings
  - Life cycle cost avoidance, system(s) revisions or equipment changes that can reduce long term expenditures
  - Cost additive project betterments, i.e., project scope enhancements
- Listing of design suggestions / quality review items
  - Points of noted concern
  - Potential enhancements not investigated due to time constraints
- Results may vary by project, timing, facilitator and value team

When? - VE Timing

- Planning begins at AE SOW requirements definition
- Typically, VE concurrent with 35% design review

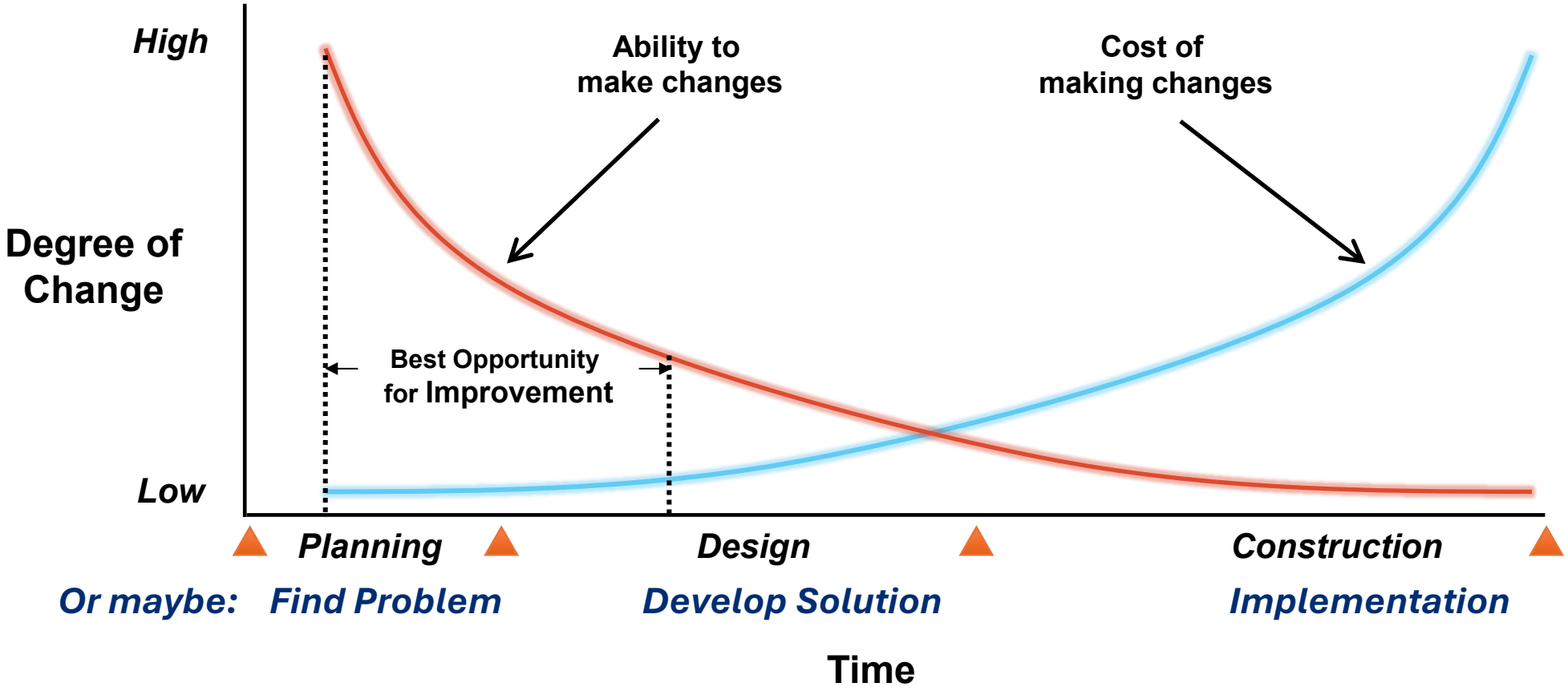
When? - VE Timing

- Typical VE workshop planning
  - Planning / pre-workshop
    - Confirm project scope, start date
    - Kick-off conference
    - Distribute project documents
  - Workshop
    - 3-days min; 5-days typical
    - At / near project site preferred
  - Post-workshop
    - Draft VE Report
    - Consensus conference will all project stakeholders and DOR
    - Final VE report with dispositions

Activity	Duration
Planning / Preparation (35% Design)	
VE Kick-off Conference	1 week
VE Workshop	1 week
Draft VE Report	~1-2 weeks
Consensus Conference	~1 week
Final VE Report	~1 week
Total duration	**~5-6 weeks**

VE review typically coincides with design review period.

When? - VE Timing

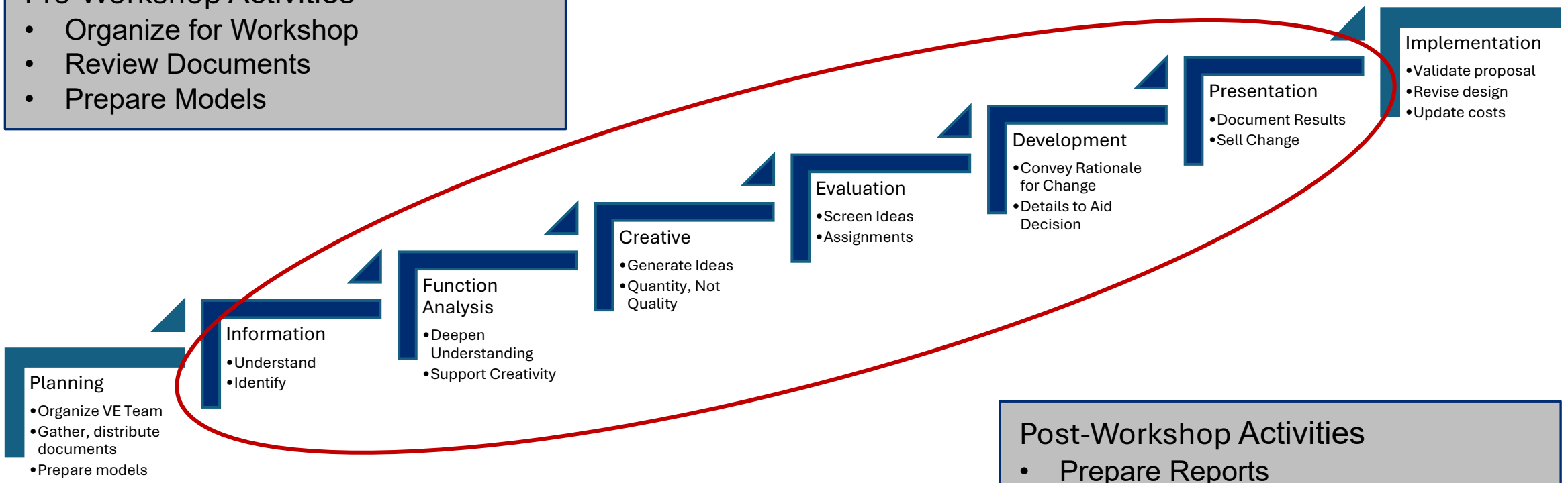


When? - Value Job Plan - Applications

- Versatile approach, many different applications
  - Management systems – Business Process Improvement / Reengineering
  - Master planning – Value Planning Charrettes
  - Design initiation (10%) – Value Based Design Charrettes
  - Conceptual design (35%) – Traditional VE/VM
  - Detailed design (65%) – Scope confirmation / design validation
  - Constructability review (95%) – Can project be built as designed?
  - OAEC Partnering
  - During construction – Project schedule recovery
  - During operations – Process Optimization / Value Enhancement

How? – Overview of VE Process

Pre-Workshop Activities
- Organize for Workshop
- Review Documents
- Prepare Models



Post-Workshop Activities
- Prepare Reports
- Evaluate and Decide Disposition of Recommendations
- Document Outcomes

How? - Overview of VE - Value Job Plan

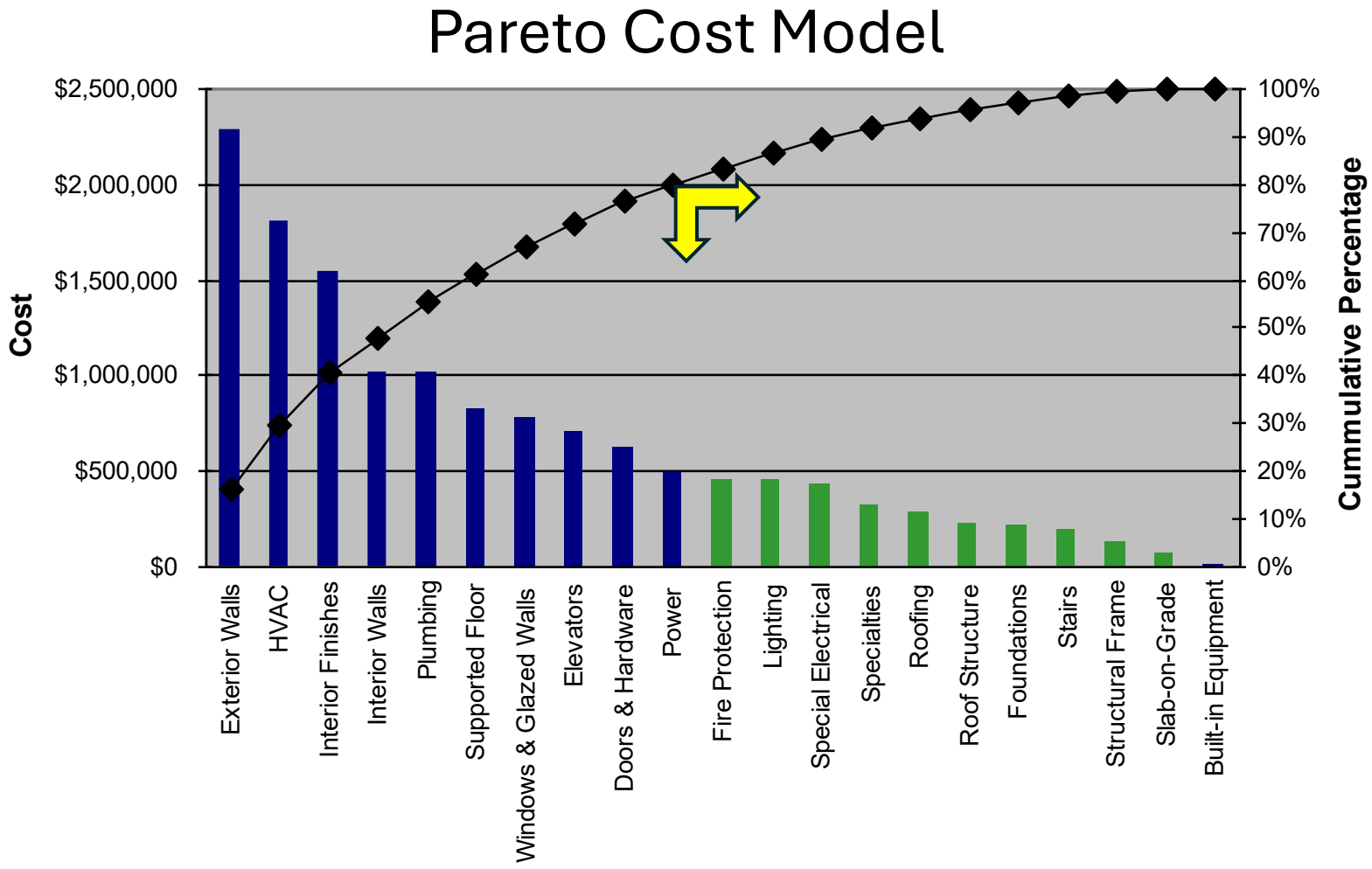
- Systematic, phased approach to project review
  - Planning Phase
  - Information Phase
  - Function Analysis Phase
  - Creative Phase
  - Evaluation Phase
  - Development Phase
  - Presentation Phase
  - Implementation Phase

How? - Value Job Plan – Planning Phase

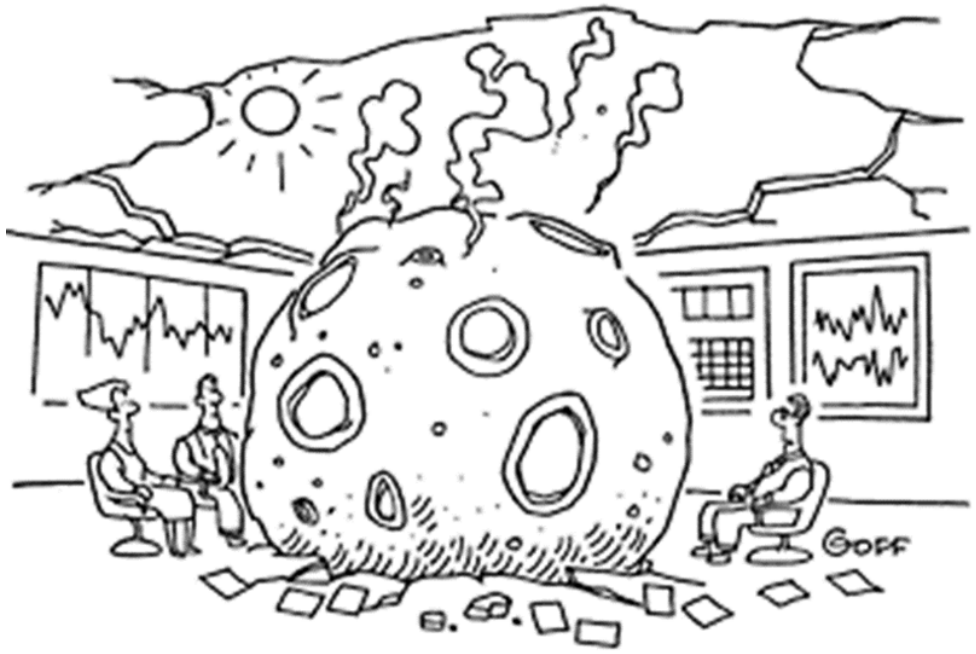
Planning Phase (Pre-Workshop)

- Organize workshop
- Stakeholder involvement?
- Schedule venue / location
  - Near project site?
  - Near GVT offices?
  - Consultant offices?
- Distribute project documents
  - Drawings
  - Design Analysis
  - Cost Estimate(s)
- Prepare models (i.e., Pareto)
- Select VE team members
  - Architect?
  - Structural?
  - Civil / Drainage?
  - Environmental?
  - Mechanical / HVAC?
  - Plumbing?
  - Fire Protection?
  - Electrical?
  - Communications?
- Review project documents

How? – Planning / Information Phase



How? - Value Job Plan – Information Phase



"Is there anything else we failed to anticipate in our plan?"

Information Phase (Workshop)

- Project Stakeholders, End Users and DOR brief VE Team
  - Project objectives
  - Design approach
  - Design constraints
  - Absolute, must have features
  - Project costs DD1391 PA vs CWE
  - Construction start
  - Period of performance
- Consider project risks (i.e., cost, schedule, scope / mission, etc.)

How? - Value Job Plan – Function Analysis

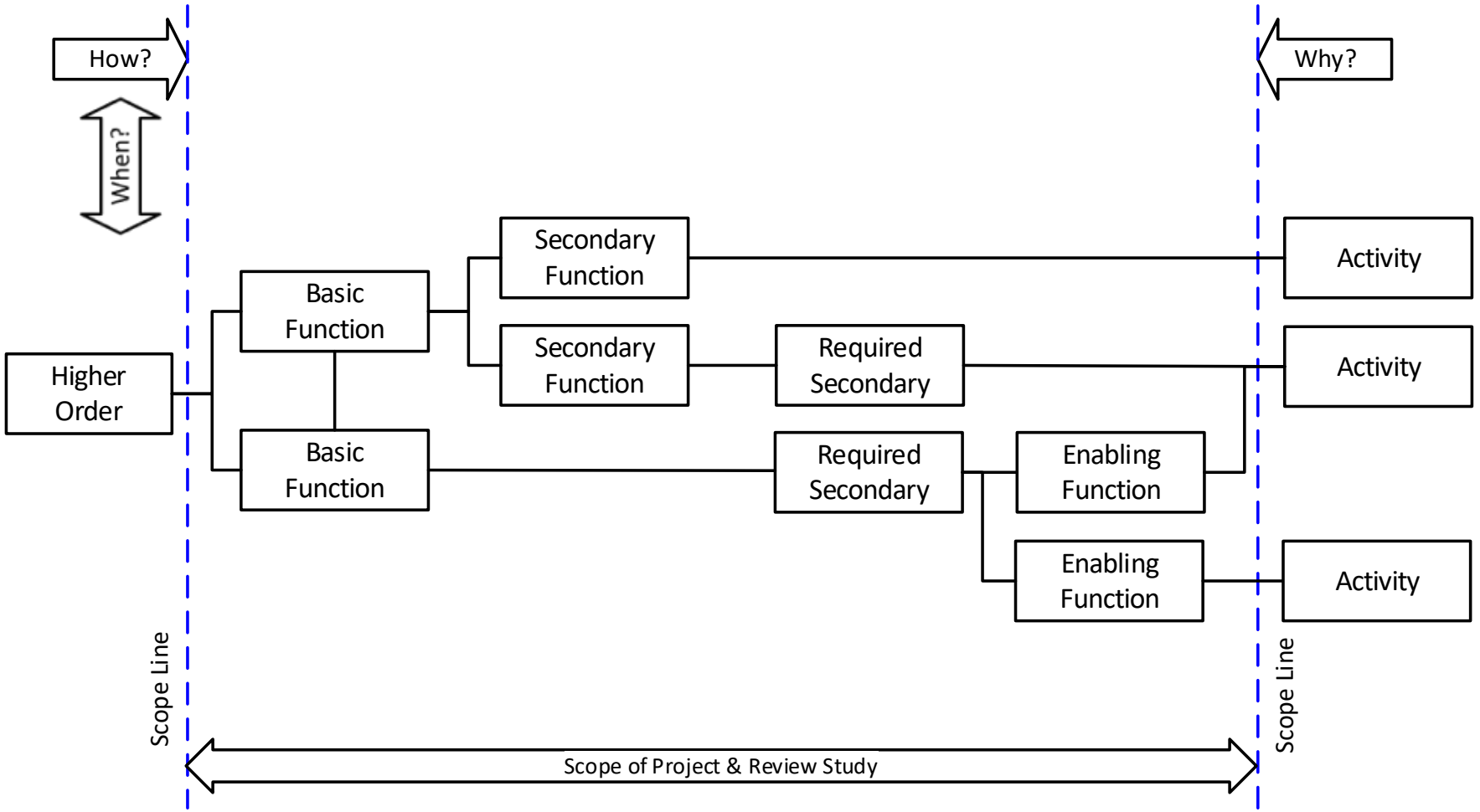
Purpose

- Deepen the understanding of the problem to be solved
- Promote discussion and information gathering
- Support the process of creativity
- Avoid confusion and combination of functions
- Permit people with different technical backgrounds to effectively interact

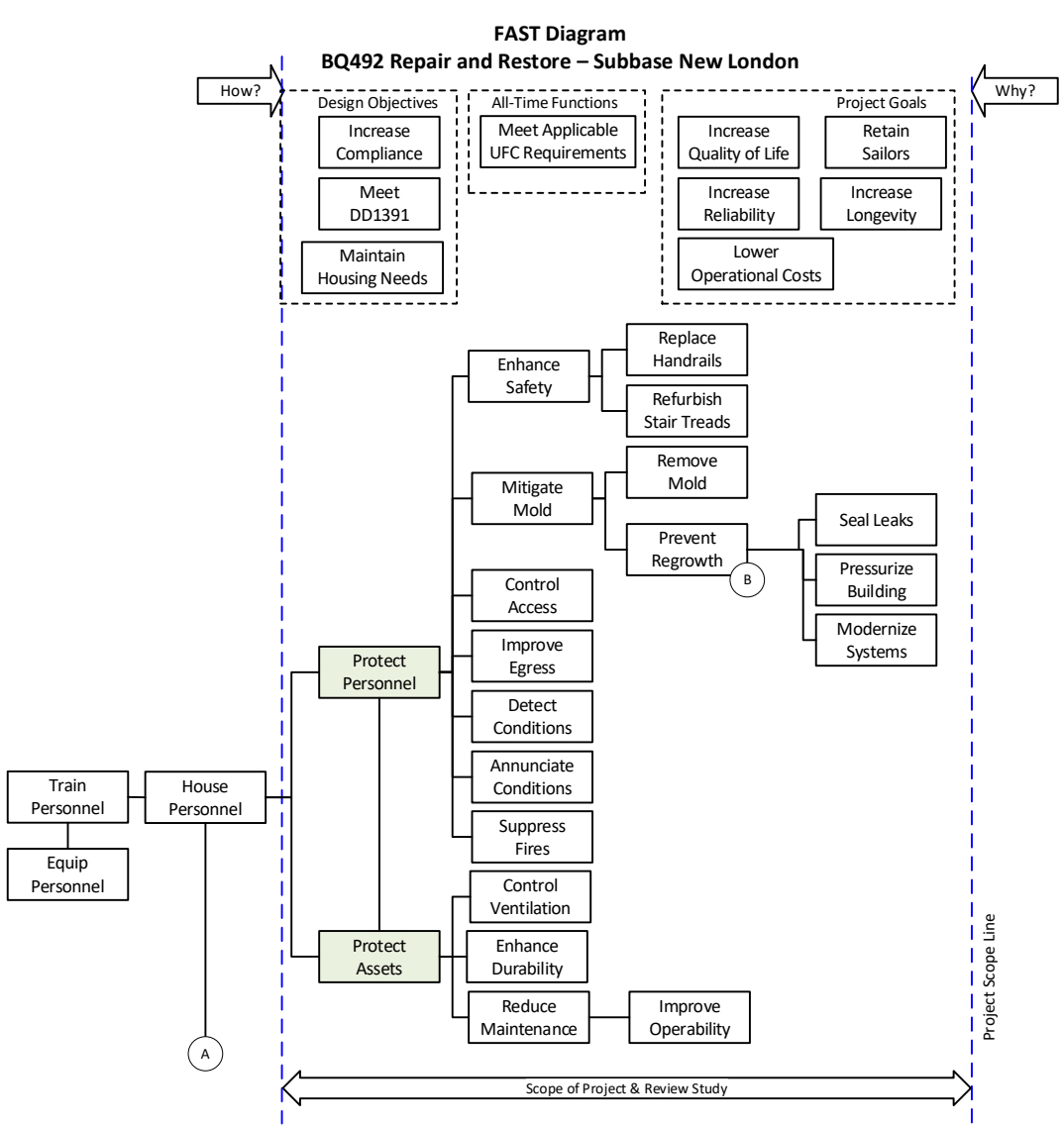
Method

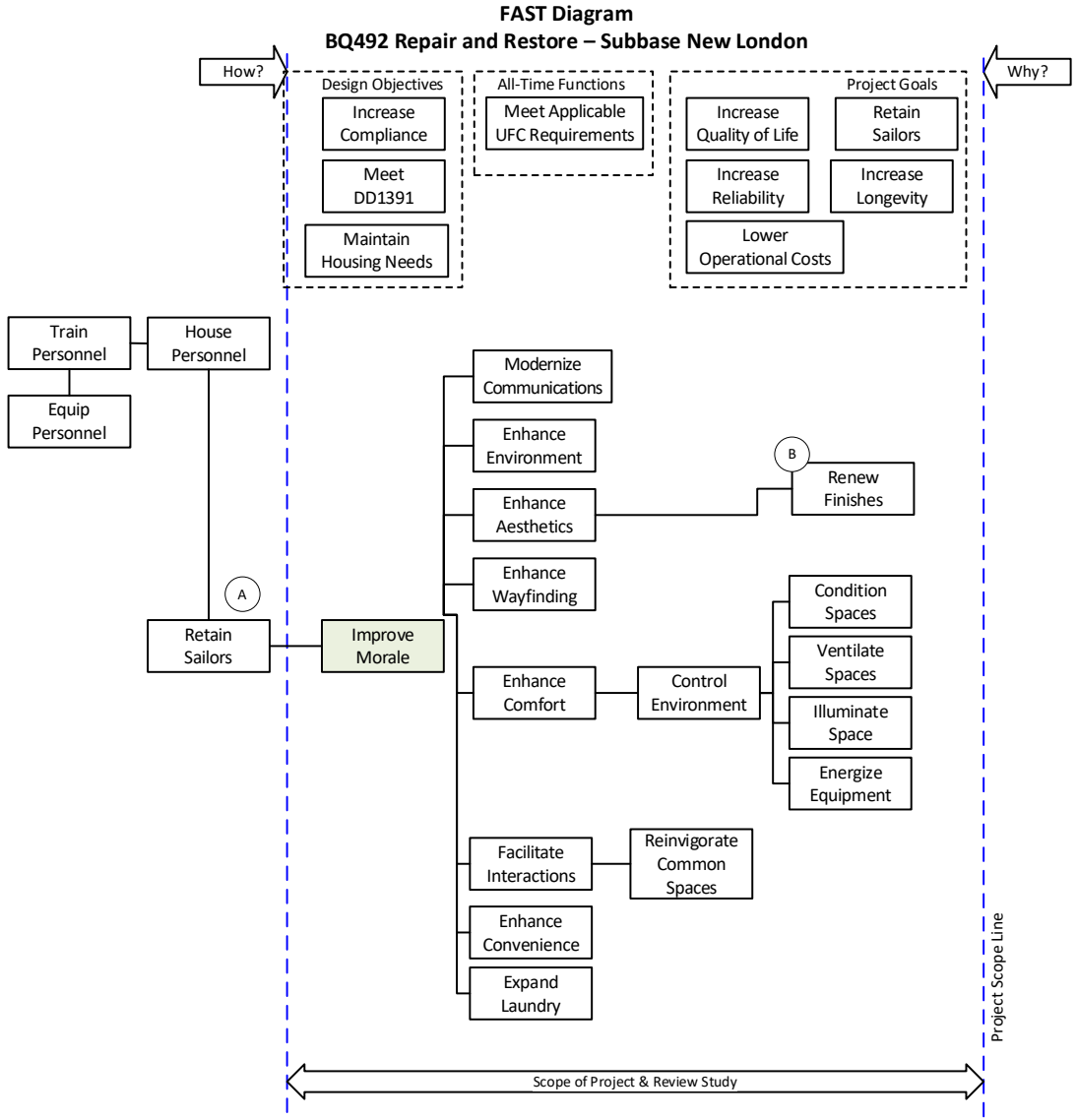
- Break down into elements:
  - Function defined by “Active Verb” + “Measurable Noun” pair (i.e., Support Load)
- Logical connections
  - How, Why, When?
- Questions – “What …”
  - does it do?
  - must it do?
  - is its purpose?
  - is its value?

How? - Value Job Plan – Function Analysis



FAST Diagram – Dormitory Renovation





How? – Function Analysis Phase

"Mind tuning is an essential step in problem solving."

Lawrence D. Miles

"Form follows function."

Louis Sullivan, Architect

How? Value Job Plan – Creative Phase

Creative Phase (Workshop)

- Value targets
  - Selected from function model(s)
  - Additional VE Team defined categories
- No constraints during brainstorming
  - Every idea is good!
  - No criticism / negativity!
- Large quantity of creative ideas is desired

How? – Creative Phase

"Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world."

"Creativity is intelligence having fun."

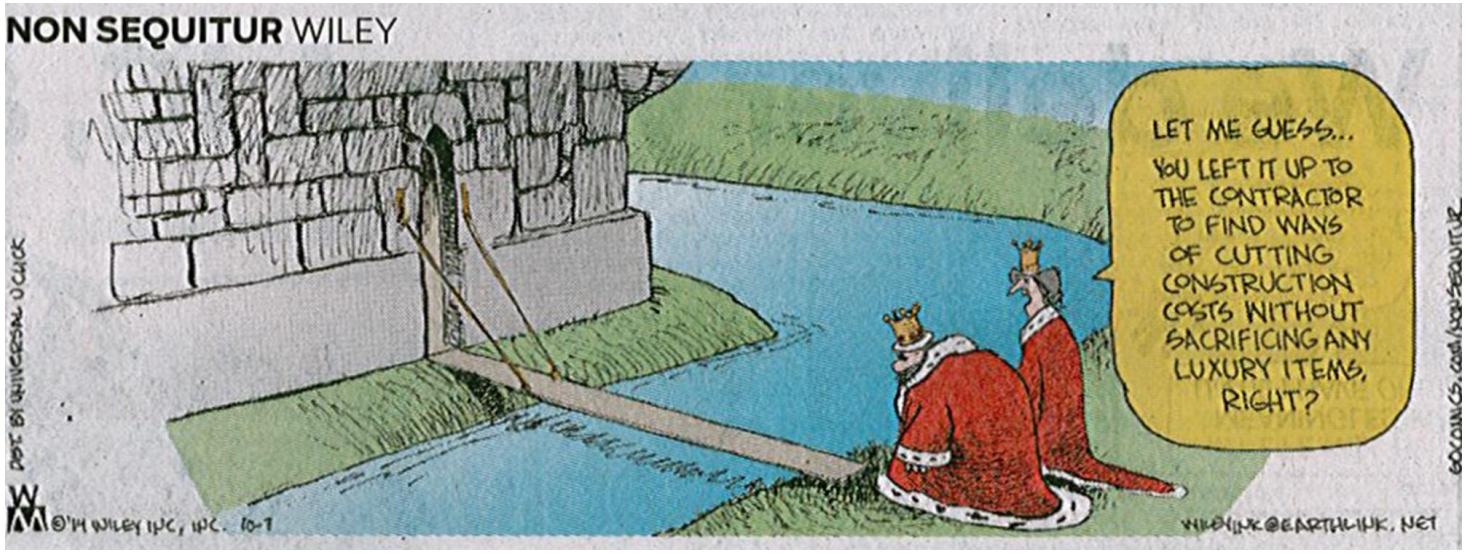
Albert Einstein, Physicist

How? Value Job Plan - Phases

Evaluation Analysis (Workshop)

- Constraints return
- Alternative ideas considered vs VE Team defined evaluation criteria, such as:
  - Cost (initial and life cycle)
  - Technical
  - Stakeholder / User acceptance
  - Regulatory (i.e., UFC, Host Nation)

- Alternative ideas are sorted
  - Value Proposal?
    - Cost avoidance
    - Project betterments
  - Quality Review Item?
  - Estimate Correction?



How? Value Job Plan - Phases

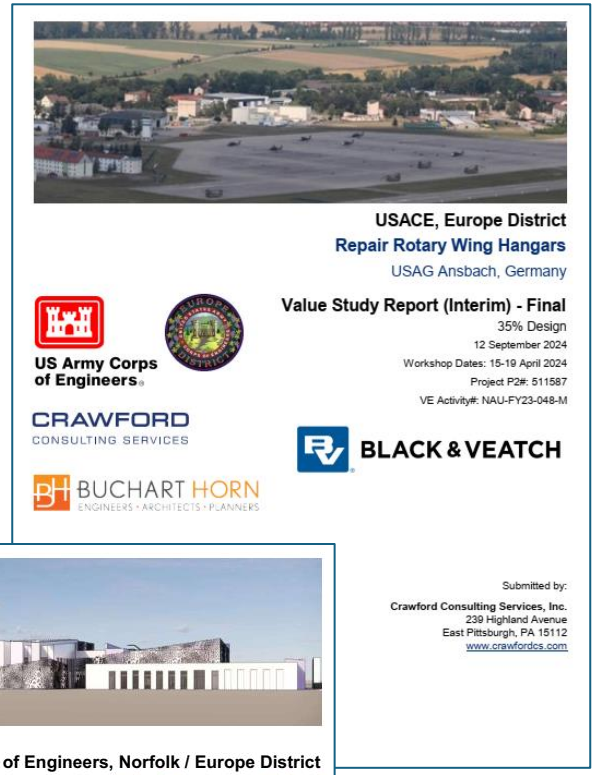
Development Phase (Workshop)

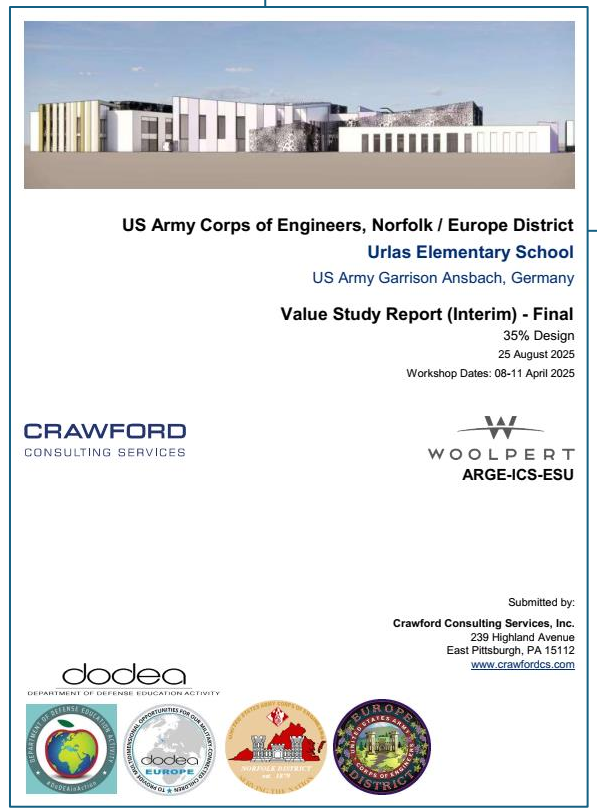
- Flesh out selected ideas into viable concepts
  - Narrative descriptions
  - Advantages vs Disadvantages
  - Sketches
  - Simple calculations
  - ROM cost estimate
  - ROM life cycle cost analysis
- Individual team members prepare proposals with support as needed

How? Value Job Plan - Phases

Presentation Phase (Workshop)

- VE Team out-brief to project stakeholders, DOR team
- Prepare Draft and Final reports
- Consensus / Implementation conference
- DVO records result in USACE Value Engineering Reporting System (VERS)





How? Value Job Plan - Phases

Implementation Phase (Post -Workshop)

- DOR incorporates accepted Value Proposals into design
- DVO tracks implementation, updates VERS database

Value Engineering Reporting System (VERS) Data

VERS Data Fields Data Report Version	Data
Number of Proposals Developed	21
Number of Accepted Proposals	11
Number of Quantitative Proposals	17
Number of Accepted Quantitative Proposals	10
Number of Qualitative Proposals	4
Number of Accepted Qualitative Proposals	1
Potential/Projected Cost Avoidance (Gross)	$ 2,642,000
Accepted Cost Avoidance	$ 2,210,000
Maximum Life Cycle Cost (Gross)	$ 2,642,000
Accepted Life Cycle Cost	$ 2,210,000
VE Activity Cost	$ 142,923
Return on Investment Ratio	14:1

VALUE STUDY RESULTS SUMMARY

US Army Corps of Engineers

Urlas Elementary School
US Army Garrison Ansbach, Germany

District or Division:	Norfolk / Europe District	Program:	MILCON FY28
Value Study Date:	08-11 April 2025	Project No.:	509310
Value Study Timing:	35% Design	Original Cost:	$83,671,960

ACCEPTED RESULTS

Reliability:	Maintained	Initial Cost Avoidance:	$ 2,210,000
Operations & Maintenance:	Maintained	Schedule Savings:	0 months
Functionality:	Increased	Return on Investment:	14:1

PROJECT OVERVIEW

The Urlas Elementary School (US) project has been planned as a two-story, 113,000 square foot (SF) new construction facility intended to create a learning environment for 500 Kindergarten through 5th Grade (K-5) students. Urlas ES will be configured with learning neighborhoods, or pods of learning studios, to promote interactive learning and youth education. Urlas ES is designed to comply with UFC, DoDEA and Host Nation standards and guidelines.

The Urlas ES is sited west of the planned new family housing area. Directly adjacent to the new Urlas ES will be the new Child Development Center, to be located on the south side. The Urlas housing and school area formerly had munitions storage bunkers, all of which have been removed. The Urlas housing and school area has been fully surveyed and deemed clean / cleared, released for unrestricted development.

VALUE STUDY BENEFITS

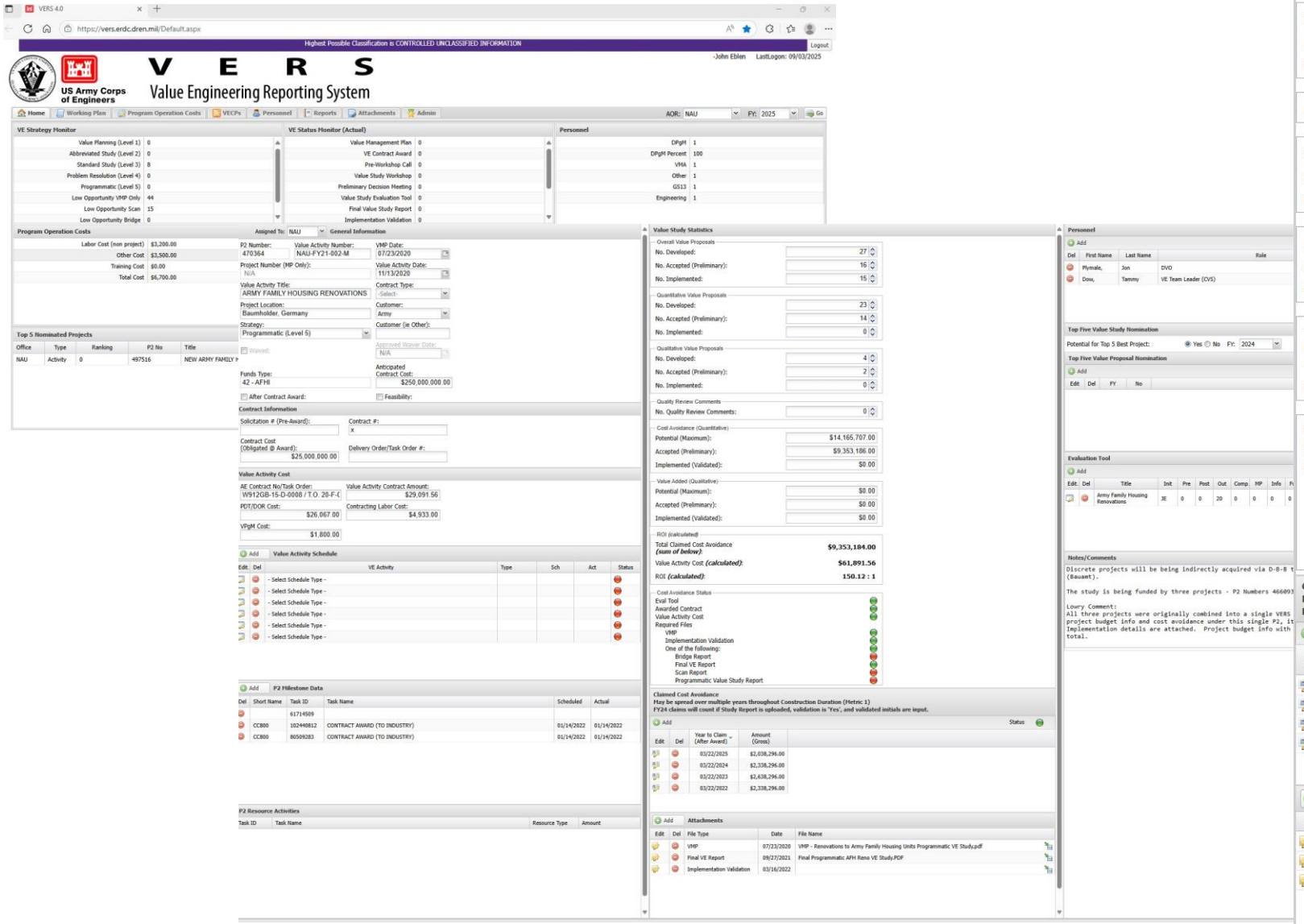
The Value Team identified 122 alternative ideas specific to the Urlas ES conceptual design. These alternative ideas yielded twenty (20) Value Proposals plus 28 Quality Review items.

The Value Team bundled the recommended Proposals into three notional strategies based on relative impact to the project - Site, Architecture, and Building Systems. These Strategies discount proposals as appropriate, and omit the mutually exclusive items.

KEY RECOMMENDATIONS

Accepted Value Proposals include:
CE-04a and CE-04b removes skylights, which are high maintenance and source points for roof leaks.
CE-08 and CE-10 reduce gymnasium glazing and provide translucent wall panels for daylighting.
CE-14 eliminates or reduces the rooftop equipment decorative screening.
CE-20 simplifies the covered entry walkway.
CE-22 eliminates the amphitheater.
CE-25 eliminate or minimize the exterior covered walkway canopies from the parking bus drop off area and to the building entrance.
CE-31 adds a dedicated entry drive parent drop off lane, separating parent traffic from teach / staff..
CE-70 eliminates rain harvesting system, which is not required by HN regulations and require significant maintenance to ensure operation.
MC-15 eliminates the screening wall for rooftop mechanical equipment. Visibility of roof top equipment is limited from the ground level.

What? - VE Review Results



Value Study Statistics

Overall Value Proposals

No. Developed:	27
No. Accepted (Preliminary):	16
No. Implemented:	15

Quantitative Value Proposals

No. Developed:	23
No. Accepted (Preliminary):	14
No. Implemented:	0

Qualitative Value Proposals

No. Developed:	4
No. Accepted (Preliminary):	2
No. Implemented:	0

Quality Review Comments

No. Quality Review Comments:	0

Cost Avoidance (Quantitative)

Potential (Maximum):	$14,165,707.00
Accepted (Preliminary):	$9,353,186.00
Implemented (Validated):	$0.00

Value Added (Qualitative)

Potential (Maximum):	$0.00
Accepted (Preliminary):	$0.00
Implemented (Validated):	$0.00

ROI *(calculated)*

Total Claimed Cost Avoidance ***(sum of below)***:	**$9,353,184.00**
Value Activity Cost ***(calculated)***:	**$61,891.56**
ROI ***(calculated)***:	**150.12 : 1**

Cost Avoidance Status

- Eval Tool
- Awarded Contract
- Value Activity Cost
- Required Files
  - VMP
  - Implementation Validation
  - One of the following:
    - Bridge Report
    - Final VE Report
    - Scan Report
    - Programmatic Value Study Report

Claimed Cost Avoidance
May be spread over multiple years throughout Construction Duration (Metric 1)
FY24 claims will count if Study Report is uploaded, validation is 'Yes', and validated initials are input.

Add — Status

Edit	Del	Year to Claim (After Award)	Amount (Gross)
		03/22/2025	$2,038,296.00
		03/22/2024	$2,338,296.00
		03/22/2023	$2,638,296.00
		03/22/2022	$2,338,296.00

Add **Attachments**

Edit	Del	File Type	Date	File Name
		VMP	07/23/2020	VMP - Renovations to Army Family Housing Units Programmatic VE Study.pdf
		Final VE Report	09/27/2021	Final Programmatic AFH Reno VE Study.PDF
		Implementation Validation	03/16/2022	

What? USACE VE Review Performance Metrics

Command Key Performance Indicator (CKPI – Monthly)

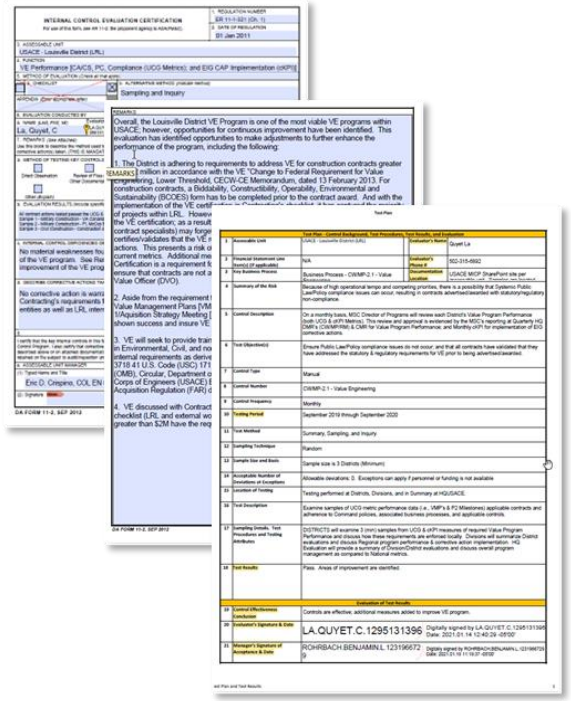
- Program Compliance

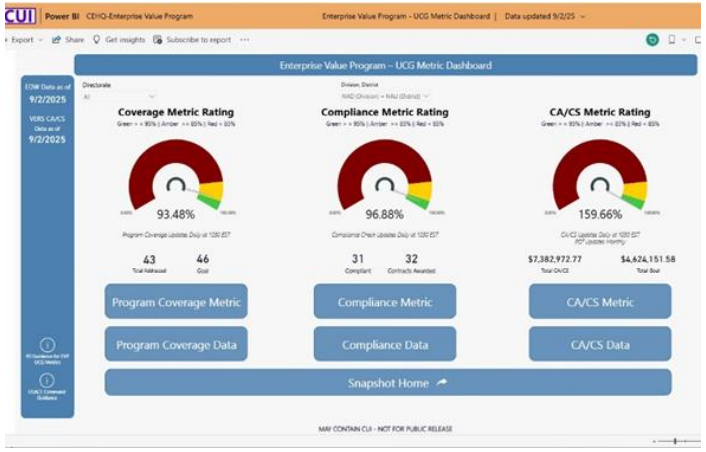
District Metrics (Looked at Quarterly Monthly)

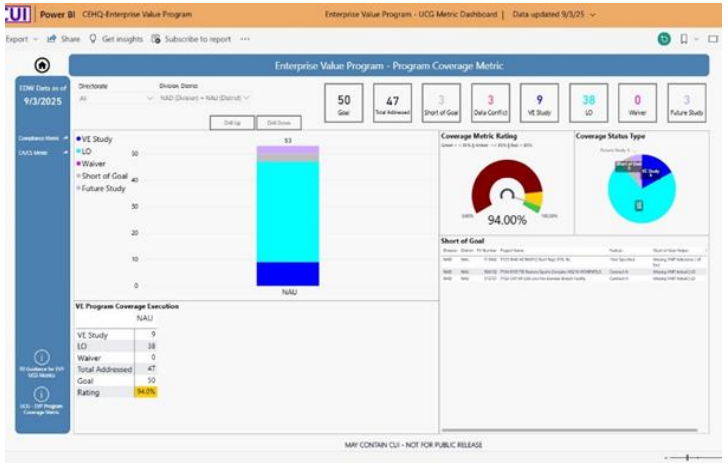
- Program Compliance
- Program Coverage
- Cost Avoidance/Cost Savings

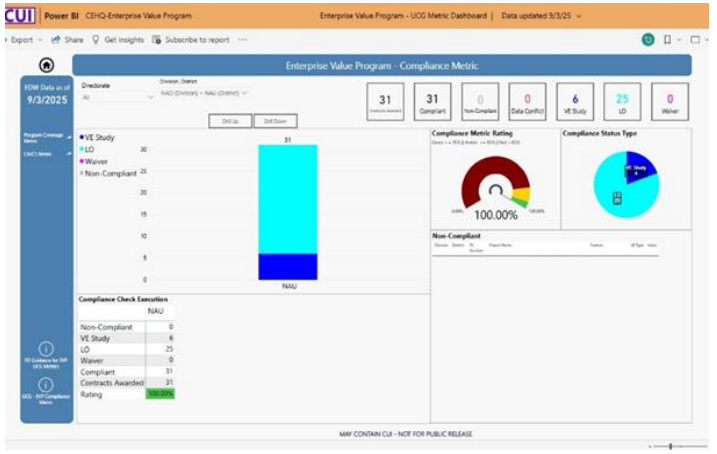
Risk Manager's Internal Control Program (RMICP - Annually)

- HQ Priority Internal Control Audit









What? USACE VCoP Support System

Formal Value Engineering

- Questions?
- Comments?

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Additional Slides

There’s more to the story.

Another VM Story

Construction Schedule Recovery

VM Construction Project Schedule Recovery

Yet Another Old VE Guy Story

- USAFA, Colorado, Oct ‘13
- Center for Character and Leadership Development
  - Polaris Hall
  - Located on historic district mall, near Academy Chapel
  - Blended MILCON & USAFA Alumni Association funding
  - Office of SecAF involvement
- VE/VM applied to create a schedule recovery plan

VM Construction Project Schedule Recovery

- Situation:
  - Very high-profile structure
    - Iconic design; complex form
    - Historic district location
    - Adjacent iconic structure
  - Joint venture contract
  - Underperforming subcontractor
  - Owner driven scope changes
  - Differing conditions
  - Open procurements
    - Unique, complex fabrication

- Recovery Plan:
  - Resequence schedule
  - Procurement plan
    - Source and vet vendors
      - Alternates to existing
      - Open procurements
    - Reallocate work scopes
  - Change management plan
    - Owner driven changes
    - Subcontractor issues

VM Construction Project Schedule Recovery

- Success Factors
  - Executive level commitment
    - VM Job Plan Rules
    - Senior level review team
    - Minimum 3-days format
  - Recognition of issues
    - Who owns what problem?
  - Owner / contractor engagement
    - Positive, open dialogue
- Target Outputs
  - Organized approach
    - VM Job Plan derived
  - Prioritized corrective action plan
    - Immediate impacts?
    - Contractor vs Owner actions
  - Team Building!
    - Contractor - Owner
    - Contractor internal

Another VM Story

Additional Report Examples

Additional Report & VERS Examples

U.S. Army Corps of Engineers, Wilmington District

SOF FOB Freedom Upgrades

Fort Liberty, NC

Value Study Report - Final

35% Design

05 September 2025

Workshop Dates: 28 July - 1 August, 2025

CRAWFORD CONSULTING SERVICES

Stantec

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US Army Corps of Engineers ®
Wilmington District

VALUE STUDY RESULTS SUMMARY

US Army Corps of Engineers

SOF FOB Freedom Upgrades
Fort Liberty, NC

District or Division:	**Wilmington District**	**Program:**	MILCON FY26
Value Study Date:	28 July - 1 August, 2025	**Project No.:**	94765
Value Study Timing:	35% Design	**Original Cost:**	$45,453,837

ACCEPTED RESULTS

Reliability:	Maintained	**Initial Cost Avoidance:**	$ 3,518,000
Operations & Maintenance:	Degraded	**Schedule Savings:**	0 months
Functionality:	Increased	**Return on Investment:**	23:1

PROJECT OVERVIEW

These special operation forces forward operating base (SOF FOB) Freedom upgrades will provide durable construction to replace existing temporary wooden structures and tents that have been used to replicate an FOB within third-world location. Upgrades will be constructed in phases within each of the FOB Freedom areas - Administration, Student, and Freedom Village, which include eight (8) different building types (28 total individual facilities) to be constructed. Anticipated construction duration is 730 days.

The administration area scope incudes a new Administration Annex Building and Cadre Support facility with showers and common room sleeping area for up to 24 trainers, as well as gravel parking lot expansion at the existing Administration Building (T-1840). Student area scope includes four (4) General Instruction Buildings, (18) arched roof 16-person billets, latrine/shower building and screening chain-link fencing between Administration and Student areas. Freedom Village includes a new, 88-person capacity role player Ready Building with common sleeping areas and showers, the Consulate Simulator building, and Consulate perimeter wall. Several new buildings will be constructed to resemble conventional shipping containers.

VALUE STUDY BENEFITS

This VES iproposed several alternative ideas that add variability to the Student / Training area to further reinforce the austere FOB environment aesthetic.
The VES Team prepared (14) Quantitative (QNT) and (8) Qualitative (QLT) proposals with net combined potential cost avoidance of $3,543,000.
Three (3) Strategies bundle proposals according to the three (3) primary areas - Administration (with Cadre), Student (with training), and Freedom Village. The Student area strategy applies two (4) proposals four-times each, increasing student billet variability. Two (2) proposals that were applicable to more than one area were pro rated accordingly.
The VES Team investigated relocatiingthe role player Ready Building outside of the defined red cockaded woodpecker habitat work restriction zone. Moving the Ready Building will avoid habitat impacts that would limit when the contractor could work on this facility.

KEY RECOMMENDATIONS

Proposals for consideration:
MC-06A, MC-06B, SS-02 inject variability to the Student billets, enhancing the FOB-like training environment.
PP-01, PP-02, PP-03, PP-04 change the emergency exit signage and battery lights to fixtures similar to austere environments that still meet U.S. Life Safety Code requirements.
SS-06 adds remote control of electrical service within the Student area from Administration, allowing trainers to simulate power outages.
IU-01 converts domestic hot water generation from slow recovery time electric heat pumps to fast recovery time propane fired boilers.
MC-05 & PE-07 pertain to relocating the Ready Building away from the RCW habitat area.
CE-23 right sizes the Ready Building based on historical overnight role player patterns.

U.S. Army Corps of Engineers, Seattle District

Child Development Center

Mountain Home AFB, Idaho

US Army Corps of Engineers

Value Study Report (Revised) - Final

Draft Design-Build Request for Proposal

06 May 2025

Workshop Dates: 10-14 February 2025

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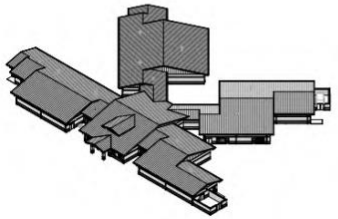
BURNS McDONNELL



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VALUE STUDY RESULTS SUMMARY

US Army Corps of Engineers

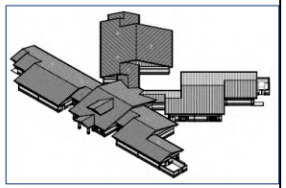
Child Development Center
Mountain Home AFB, Idaho

District or Division:	**Seattle District**	**Program:**	MILCON FY25
Value Study Date:	10-14 February 2025	**Project No.:**	493117
Value Study Timing:	Draft Design-Build RFP	**Original Cost:**	$64,292,569

ACCEPTED RESULTS

Reliability:	Maintained	**Initial Cost Avoidance:**	$ 2,475,000
Operations & Maintenance:	Maintained	**Schedule Savings:**	0 months
Functionality:	Maintained	**Return on Investment:**	18:1

PROJECT OVERVIEW



The Mountain Home Air Force Base (MHAFB) Child Development Center (CDC) is planned as a single story 35,555 square-foot (SF) facility. The CDC will accommodate 242 dependent children, ages six weeks through five years, of MHAFB active duty personnel as well as qualified DOD civilian members and other personnel. CDC will include child age appropriate indoor and outdoor spaces. The CDC was designed IAW Draft FC 4-470-14F, dated March 2016. The CDC will incorporate mass timber structure to greatest extent possible as a pilot site to demonstrate emerging technology; to be contracted as design-build (DB) delivery. Original MHAFB CDC budget was $40 million.

The new CDC will be located at the intersection of Eagle Drive and Gunfighter Avenue, adjacent to the Temporary Lodging Facility (TLF) and near the MH Elementary School which will be replaced by a separate project. Family housing is located north of the CDC, along both sides of Gunfighter Avenue. The new CDC will be located across Gunfighter Avenue from the existing Base Commissary and Exchange.

VALUE STUDY BENEFITS

Value Study Benefits:
The Value Team identified 109 alternative ideas during the Creative Phase, including several facility and constructability enhancement opportunities (i.e., building height, utility systems, etc.). This project review resulted with twenty-two (22) Value Proposals and thirty-one (31) Design Suggestion / Quality Review items for further consideration during design development.

The Value Team challenged several project constraints including elements required by Draft FC 4-470-14F as well as Executive Order 14057 (now rescinded).

KEY RECOMMENDATIONS

Proposals **CE-01, CE-02 and CE-07** identified alternatives to the design basis electric heating system. CE-02 changes the boiler type, yielding both initial construction and life cycle cost avoidance

CE-10 and CE11 reduce the building roof slope and height, both are prescribed by the Draft FC.

CE-23 removes demolition of the existing CDC from the new CDC project scope. Existing CDC can be repurposed, or demolished at a later date.

ES-01 and ES-02 address the above ceiling fire suppression system as a result of mass timber structural system pilot project.