VALUE BASED DESIGN CHARRETTE (VBDC) REQUIREMENTS

The Architect-Engineer (A-E) must examine project functions, validate project requirements, analyze alternate design concepts by means of the Charrette methodology described below, and present these findings and recommendations to the Government.

A. Methodology: Participate in an on-site Charrette Conference located at the project’s site or as noted in the SOW. This project development process must incorporate methodology similar to that used in the preparation of a value engineering study. Provide the services of a Facilitator, whose role will be to guide the Design-Bid-Build (DBB) Design Team, consisting of but not limited to the A-E, USACE, NAVFAC, User/Activity representatives, other DoD personnel as applicable, through the charrette process using the six step job plan recommended by SAVE International. The Facilitator must be a Certified Value Specialist who will be responsible for leading the team through the Charrette process.

B. Facilitator: The Facilitator must lead the DBB Design Team through the Charrette process that includes the analysis of project functions and creative sessions to identify alternate materials and systems to provide/satisfy the required functions.

B1. During the Charrette Conference, the Facilitator must be responsible for the following functions -

- Guide the DBB Design Team through evaluations of the high potential creative ideas.
- Coordinate all meetings.
- Maintain minutes of all meetings.
- Writing the partnering agreement.
- Helping the A-E during the summary briefings.
- Assisting the A-E in obtaining approval signatures.
- Assisting the A-E in the distribution of the Final Charrette Report.

B2. In addition, prior to the start of the Charrette Conference, the Facilitator must -

- develop a Function Analysis System Technique (FAST) Diagram for the project based on available information.
- provide an appropriate conference room for use by the DBB Design Team during the Charrette work sessions/meetings. Confirm the number of people in attendance, prior to conference. The conference room must be equipped with projector for presentations, photocopying machine, telephone, fax, and internet capabilities.

C. DBB Design A-E: The following steps will be accomplished by the A-E during the charrette process.

C1. Complete the following items prior to arriving on site for the start of the Charrette Conference.

a) As a minimum, review the following documents -

- references cited in the project’s Scope of A-E Services (SAES),
- design authorization and programming documents,

b) Prepare a preliminary cost estimate for the construction based on the SoW identified in the programming document.

c) Coordinate work schedules, travel arrangements, planned meetings, report formats, and on-site logistics (including topographic surveys, geotechnical investigations, etc.) with the Government, Facilitator, and A-E sub-consultants.

d) Identify and obtain site data to support the Charrette process. This data may include, but not be limited to, the following -
- topographic and hydrographic data,
- geotechnical information,
- contaminated soil information,
- utility drawings,
- fire water flow tests,
- environmental plans,
- ordnance, airfield, and electromagnetic radiation hazard areas,
- master plans and other planning documents,
- base exterior architectural plans (BEAP),
- definitive design drawings.

e) Each discipline must consult with the USACE Engineering Division Design Manager prior to the on-site Charrette Conference to confirm discipline-specific requirements.

C2. Accomplish the following items during the on-site phase of the Charrette process.

a) As a minimum -
   1) Conduct initial site investigation to roughly determine reliability of existing topographic, hydrographic, and/or soil data.
   2) Meet with the appropriate utilities personnel and identify utility requirements and preliminary hook-up locations.
   3) Meet with the appropriate Security, Communications, Fire Department, Utilities, and any other personnel involved with the project to coordinate the respective requirements.
   4) Obtain existing as-built drawings, development maps and other pertinent information.
   5) Confirm known environmental and operational hazard zones.
   6) Obtain other information as applicable.

b) Meet with the using activity and other Government representatives. The Government will schedule this meeting. The Facilitator will lead the technical portion of the meeting after initial remarks by Government representatives. The purpose of this meeting is to get answers to the following questions -
   - What does the user do?
   - What must the user do?
   - How does the user do it?
   - What facilities does the user need to perform this function?

c) Participate in work sessions to identify the required primary and secondary functions.

d) Prepare preliminary site and floor plans based on the required function(s) identified.

e) Participate in creative sessions to generate ideas for sustainability principles and concepts that can be used in the design of the project.

f) Participate in creative sessions to generate ideas for alternate materials, systems, and processes that will satisfy the function(s) identified (i.e., What will do the job?).

g) Participate in work sessions to evaluate these ideas.
h) Prepare cost and technical analyses under the guidance of the Facilitator for high potential ideas. An evaluation of alternate materials and systems is required.

i) Prepare a recommended design concept based on information obtained from the original programming documents, user interviews, work sessions, and information developed during the cost and technical analysis. The proposed design concept must include drawings, sketches and other graphics to fully describe the recommended concept. The maximum half-size prints must be 11” x 17” in size. Drawings must be prepared to show, as a minimum, the following information -

1) Site Plan: Show the layout of the proposed facility (ies) in relation to major landmarks. As applicable, show all buildings, roads, parking, landscaping, pedestrian walkways, roads, sidewalks, etc. Indicate major dimensions and orientation.

2) Utilities Plan: Show utility lines and their points of connections in relation to existing adjacent structures, roads and utilities. Show any off-site utility upgrade requirements needed to support the project.

3) Building Floor Plans: Provide floor plans depicting functional utilization of spaces and furniture and equipment layout. Furniture and equipment must be correlated with the Collateral Equipment (CEQ) budget list.

4) Perspective Sketches: Provide at least two sketches to show different bird's eye perspectives of the project site (buildings, etc.). The sketches do not need to be elaborate but must show the proposed form and massing, colors to be used, colors of surrounding buildings, and an indication of materials used.

j) Prepare a project cost estimate based on the recommended concept to the detail necessary to determine that the project can be constructed within authorized funds.

k) Conduct summary briefings on the recommended project concept. The intent of the briefing is to describe the recommended design concept to the using activity so they can make an informed decision regarding approval. The briefing should discuss identified user requirements, how the recommended concept meets or does not meet these requirements, a general description of the engineered systems incorporated in the proposal, architectural and environmental compatibility, and other special or controversial items that may be included in the design concept. The format of the briefing should be suitable for a non-technical audience. The A-E should be prepared, however, to make a technical presentation on all aspects of the project if such detail is requested.

m) Assist the Facilitator in preparing an Executive Summary/Partnering Agreement of the approved project design concept.

n) Assist the Facilitator in preparing a Charrette Report (described in paragraph D1 below) and distributing copies of the Charrette Report and drawings to USACE, NAVFAC, User/Activity representatives, other DoD personnel as applicable. Obtain user, construction agent and base facilities department signatures signifying approval of the project layout, utility connections, environmental issues, and special features prior to conclusion of the on-site Charrette Conference.

o) Communicate with USACE Project Manager requesting comments and concurrence on the proposed concepts and systems. Obtain written concurrence by email.

D. **Charrette Report Submission:** At the completion of the Charrette Conference, the data must be organized in a report and submitted to USACE to complete the Charrette phase of project development. Prepare this report on standard size (8 1/2” x 11”) pages, indexed, and bound in three-ring binders with the project title and other pertinent information shown on the front cover and binding edge. In addition to the paper copies, the Charrette Report must be submitted in electronic (Adobe PDF and MS Word 2007) formats.
D1. **Charrette Report**: Prepared by the Facilitator and includes, as a minimum, the following items.

a) **Executive Summary/Partnering Agreement**: The Executive Summary/Partnering Agreement must provide a written narrative of the data covered in the briefings and include the following -

1) **Project Description**: Include a summary of the project scope and cost that was agreed to, the purpose, location and other pertinent information.

2) **Drawings**: Include reduced size copies of site plan(s), utility plan(s), cross sections and other drawings/sketches prepared for the user briefs.

3) **Design Provisions**: Brief review of the project’s functional requirements, site analysis, relationship to adjacent structures, major vehicular/pedestrian circulation patterns, utilities, site topography, climatic factors, existing vegetation and other factors impacting the site layout. Also, include a description of civil, architectural, structural, mechanical, electrical, fire protection, communications, cathodic protection, and other system(s) proposed for the project’s design concept. Finally, the narrative must briefly describe the most cost effective and appropriate type of systems selected as the minimum and desirable performance requirements for the design concept.

4) **Special Design Features Required**: Identify and describe unique project needs and high cost features (i.e., pile foundations, physical security, intrusion detection systems, access control, construction in humid climates, pollution abatement, site surface runoff, etc.).

5) **Architectural Compatibility Statement**: Identify architectural style, materials and color scheme.

6) **Sustainability Statement**: Identify sustainable design concepts that will be used in the project (i.e., reducing energy, operation, and maintenance costs; reducing building related illnesses; increasing building/component durability and flexibility; using construction materials and methods that will foster sustainability through resource conservation and recycling). Also, document potential ideas that may increase the project’s initial costs but will meet the customer’s requirements and lead to improved life-cycle costs and a higher degree of sustainability implementation.

7) **Environmental Issues**: Provide a summary of environmental issues, listing completed actions and items requiring further coordination, waivers or permits. Specifically address permit requirements, as well as any impacts due to installation restoration, etc.

8) **Constructability Issues**: Provide a summary of constructability issues (i.e., User/Station operational constraints, construction phasing, outages). Include USACE, NAVFAC, User/Activity representatives, review comments.

9) **Site Approval**: Discuss the status of the project’s site approval.

b) **Supporting Project Documentation**: Includes data to support the development of the project layout and special features. As a minimum, the following items should be included -

1) Basis of design summary.

2) Site analysis including relationship to adjacent structures, major vehicular/pedestrian circulation patterns, utilities, site topography, climatic factors, existing vegetation, and other factors impacting facility siting and orientation.

3) Bubble diagrams of activity functions depicting interrelationships and required proximity between work flow, circulation, spaces, utilities, etc.
4) Written reports of all site investigations and fact finding meetings.

5) Site approval documentation.

6) Minutes of all meetings.

7) Functional analysis work sheets.

8) Economic and technical analyses prepared during the Charrette process.

9) NEPA documentation, if applicable.

c) **Budget Estimate Summary Sheet**: Include the backup Cost Estimate and Cost Model Summary Sheets. Provide project design and construction data information.

d) A set of half-size prints (11” x 17”) of the drawings and sketches that was prepared on-site during the Charrette Conference.

e) Estimated Design Milestones.

D2. **Value Engineering (VE) Supplemental Report**: Prepared by the Facilitator and includes, as a minimum, the following items.

a) **Supporting Project Documentation**: Includes data to support the development of the project scope, layout and special features. Items should include –

1) Executive Summary

2) worksheets including site analysis diagrams and other functional diagrams prepared during the Charrette Conference.

3) List of creative ideas with ranking and quality rating.

4) Summary of alternatives developed.

5) Economic and technical analyses prepared during the Charrette Conference.

6) Alternative Tally Sheet (format available from VEO). Listing of all creative ideas incorporated in the design concept with an estimate of the cost impact of implementation.

b) The VE Supplemental Report must be prepared on standard size (8-1/2” x 11”) pages, indexed, and bound in 3-ring binders with the project title and other pertinent information shown on the front cover and binding edge. In addition to the paper copies, the VE Supplemental Report must be submitted in electronic (Adobe PDF and MS Word 2007) formats.