

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 1
---	---

21. TITLE AND LOCATION (City and State) Repair Aircraft Parking Aprons, Landing Plane and Landing Field Areas // Naval Station Norfolk, Chambers Field – Norfolk, Virginia Title I Services	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2009	CONSTRUCTION (If applicable) 2010

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER US Navy	b. POINT OF CONTACT NAME John Vogt (NAVFAC Midlant Project Manager)	c. POINT OF CONTACT TELEPHONE NUMBER (757)-341-0571 john.vogt@navy.mil
---	--	--

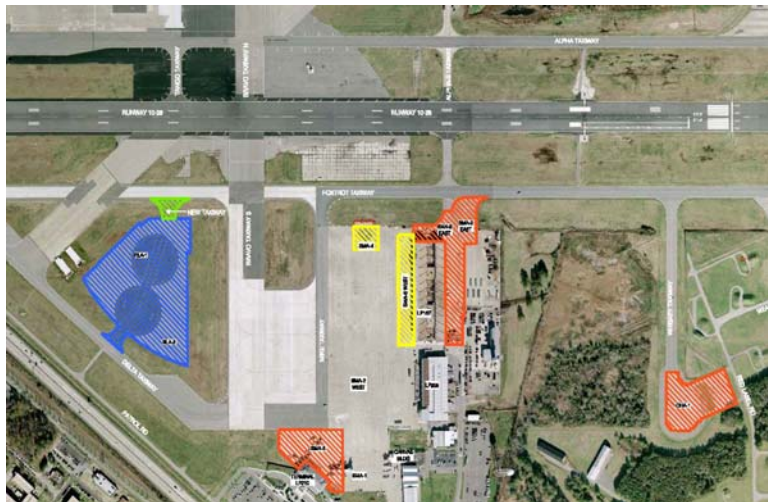
24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

RW Armstrong (now CHA Consulting, Inc.) was contracted as the lead design firm to provide Title 1 services for this Sustainment, Restoration and Modernization (SRM) project. Chambers field is a busy, active airfield that supports the world's largest naval station – Naval Station Norfolk. Due to age and heavy use of many of its taxiways, aprons and landing areas, the airfield pavement had deteriorated significantly.

The project's goal was to revitalize and rehabilitate these pavement areas to reduce the threat of foreign object debris (FOD). In addition, a new PCC taxiway and lighting was desired to connect the landing field areas (otherwise known as the "South 40") to taxiway "F" and new joint material installed in ordinance loading area. These improvements would need to be installed with minimum disruption to airfield operations and under a tight budget.

Scope of Work

This project demonstrates RW Armstrong's ability to perform Title 1 design services for an SRM project in the Eastern Region area. The project began with a Post Award Kickoff meeting where a review of the overall mission and goals of the project were conducted and parameters for successful completion were agreed upon. NAVFAC stressed to the design team the need to monitor budget very closely as there were absolutely no additional funds beyond the award amount.



For instance, the project could not impact airfield operations associated with the Haiti earthquake rescue and aid mission currently being conducted at the time the project was in development. Multiple areas on the airfield were being used for cargo storage, loading and unloading and transient aircraft parking associated with the mission. These areas would need to be carefully phased to minimize impacts. An additional factor in the design was the funding / budget for the project.

We conducted a site visit of the repair areas and carefully catalogued each repair. This took a team of 5 engineers and inspectors 3 days to perform but resulted in specifying only the repairs that could be performed within budget. RW Armstrong began the design phase by reviewing all gathered data, including conducting a comprehensive topographical survey of the areas where work was to be conducted. Following this, the design team prepared field booklets of the repair areas and conducted an exhaustive three day inventory of the repairs needed to be performed. This provided assurance that the project would stay within budget as the quantity, type and method of repair was set.

This information was used to develop a full design and specifications for construction of the project. As requested by the NAVY, emphasis was placed on phasing. RW Armstrong also value engineered the repair methods to get the most benefits from the budget as possible. Following issuance of final construction documents, RW Armstrong supported the construction phase by reviewing submittals, answering RFIs and site visits to ensure construction was in compliance with design and specifications.

RW Armstrong sought early on to engage all the stakeholders and keep them integrated into the design process. This meant sitting down in person to discuss the design approach and not ending meetings until all outstanding issues were resolved to everyone's satisfaction.

Some additional project elements included:

- Replacement of existing airfield lighting with energy saving LED fixtures
- **LID** design of storm water management system that also complied with Virginia's storm water EPA requirements
- Rehabilitation / adjustment of inlet structures to improve apron drainage
- Removal and disposal of existing pavements that are no longer needed
- Joint and crack sealing to prolong pavement life



Challenges/Resolutions

The phasing concerns are always paramount on an airfield. This project required heavy communication with airfield operations to avoid impacts. On a military airfield, the mission always comes first and it is critical that the design team recognizes this. We provided a phasing plan that allowed for construction and airfield daily operations to continue with minimal interruptions.

PROJECT RELEVANCE TO TITLE I SERVICES:

- Concept and Complete Design
- Field Study / Investigation
- Consultation/Evaluations
- Project Scope/Phasing
- Topographic Survey
- Infrastructure Systems Upgrade
- Value Engineering

Construction Cost: \$6.9 million

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

(1) FIRM NAME	(2) FIRM LOCATION (<i>City and State</i>)	(3) ROLE
a. RW Armstrong (now CHA Consulting, Inc.)	Cleveland, OH	Prime Contractor, Designer of Record, Civil and Electrical Engineering, Design Quality Control, Construction Administration Services

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 2
---	---

21. TITLE AND LOCATION (City and State) IDIQ Task Order: Project Definition Report Infantry Squad Battle Course // USACE Louisville District Ft Knox, KY Title I Services	22. YEAR COMPLETED <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> PROFESSIONAL SERVICES 2011 </td> <td style="width: 50%; padding: 5px;"> CONSTRUCTION (If applicable) N/A </td> </tr> </table>	PROFESSIONAL SERVICES 2011	CONSTRUCTION (If applicable) N/A
PROFESSIONAL SERVICES 2011	CONSTRUCTION (If applicable) N/A		

23. PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER USACE Louisville	b. POINT OF CONTACT NAME David Yankey, P.E. – Contracting Officer's Representative	c. POINT OF CONTACT TELEPHONE NUMBER (502) 315-6310

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

IDIQ Task Order #3 involved development of programming documents by preparation of Project Definition Reports (PDRs) for a range facility including validation of the 1391 estimate, concept design, coordination of multiple disciplines. Cost estimates were developed using PACES for vertical structures and the latest version of MCACES (MII) for horizontal components, including site work. The project design was based on UFC and IBC criteria, and in compliance with AT/FP and TM 5-853-2 guidelines.

- PROJECT RELEVANCE TO TITLE I SERVICES:**
- Concept and Complete design
 - Field study / Investigation
 - Programming
 - Cost studies / Estimating
 - Modernization of Systems
 - Topographic Survey
 - Construction Management
 - Field Study / Investigation
 - Consultation/Evaluations
 - Project Scope/Phasing
 - MCACES 2nd Generation / PACES
 - AT/FP and IBC Criteria
 - Permitting

PDR – Infantry Squad Battle Course / Fort Knox, Kentucky



The Project Definition Report included a design charrette at the base with all of the stake holders on the project and representatives of the design team. The results of the charrette combined with the information received on similar facilities allowed the design team to develop a narrative defining the proposed facility and layouts graphically depicting the proposed project. Elements of the ISBC included range and range operations and control areas.

The range area includes stationary and mobile infantry and armor target installations, mortar simulation devices, trench stationary and mobile infantry and armor target installations, mortar simulation devices, trench obstacles and machine gun bunkers grouped into five objective areas. The Range Operations and Control Area (ROCA) is the location of support structures for the range. These structures include a Range Control Tower, Operations/Storage Building, Classroom Building, Latrine, Covered Mess, Ammunition Breakdown Building and Bleacher Enclosure

Construction Cost: \$7.7 million

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT		
--	--	--

a.	(1) FIRM NAME Suhail & Suhail	(2) FIRM LOCATION (City and State) Chagrin Falls, OH	(3) ROLE Project Manager, Civil Engineering Support
b.	(1) FIRM NAME RW Armstrong (now CHA Consulting, Inc.)	(2) FIRM LOCATION (City and State) Cleveland, OH	(3) ROLE Civil Engineering, Communication and Control Systems, Environmental Permitting

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 3
---	---

21. TITLE AND LOCATION (City and State) Addition and Alterations to CW2 Kerry P. Hein Army Reserve Center / OMS / UHS, Shoreham, NY Title I Services	22. YEAR COMPLETED <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;"> PROFESSIONAL SERVICES 2008 </td> <td style="width:50%; text-align: center;"> CONSTRUCTION (If applicable) 2012 </td> </tr> </table>	PROFESSIONAL SERVICES 2008	CONSTRUCTION (If applicable) 2012
PROFESSIONAL SERVICES 2008	CONSTRUCTION (If applicable) 2012		

23. PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER U.S. Army Corps of Engineers, Louisville District	b. POINT OF CONTACT NAME Spencer Pifer	c. POINT OF CONTACT TELEPHONE NUMBER 502-315-6405

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

The RSP Team provided master planning, survey, geotechnical investigations, site/utility investigations, existing building assessment, architecture, engineering, comprehensive interior design, hazmat investigation, demolition design, shop drawing review and construction site visits for the renovation and additions to an existing complex. The 50,280 SF ARC, 4,784 SF OMS, and 2,431 SF UHS were developed in BIM. The installation was previously a NIKE missile station of historic merit, requiring coordination with the New York State Historic Preservation Office (NYSHPO).



Scope of Work

The training center includes 18,750 SF, two-story addition to the existing 31,530 SF building provides additional admin and training space, renovated family support and recruiting/retention offices, assembly hall, classrooms, resource library, distance learning, and physical fitness facilities, POV and M/E/P parking areas, unit-exclusive private offices and administration areas, new weapons simulator and expanded arms vault. OMS features 2 drive-through bays with overhead lubrication system and 7.5 ton girder crane, bi-level loading ramp and covered wash platform, storage area for space components and supplies, tool and equipment room, rest rooms and showers with lockers and skylights to maximize daylight.

The Training Building alteration was considered full facility revitalization. Approximately 75% of the building's interior was demolished including complete MEP system removal leaving the building shell as intact as possible to remain on budget. This required a careful coordination of the design process to ensure that the addition had minimal structural impact on the existing building and minimized disturbance to building occupants. A building survey provided the selective demolition documents that fully accomplished this task.

All of the windows on the project were brought into compliance with current ATFP criteria. This required that new structural reinforcement frames be provided at each individual opening, as well as bracing those frames back to the floor/roof structure. In order to meet UFC progressive collapse requirements, VAA designed perimeter masonry bearing walls doubling as shear walls for lateral resistance. The new structural steel and concrete systems were optimized to ensure low cost to Government. Additionally, the mechanical, fire protection, and plumbing systems for the building outside of the kitchen were completely replaced to bring the facility up to date with current performance and energy savings requirements. Since the facility did not have access to public sanitary systems and new on site sanitary drain field system was provided. Also a new electrical service was brought to the building.

- PROJECT RELEVANCE TO TITLE I SERVICES:**
- Concept and Complete design
 - Field study / investigation
 - Programming
 - Cost studies / estimating
 - Modernization of systems
 - Topographic survey
 - Construction Management
 - Field Study / Investigation
 - Consultation/Evaluations
 - Project Scope/Phasing
 - Infrastructure Systems Upgrade
 - Value Engineering

The entire team shared responsibility for development of the BIM model, using a secure internet file sharing system and a collaborative process. The VAA structural team prepared a Revit 3-D for the building structure design alternatives that facilitated client presentations and decisions. VAA's model was integrated with the other discipline

BIM designs to create an overall 3-D model presented to client and regulatory agencies, and eventually used to create construction documents. These became particularly valuable in illustrating how the proposed building and site design worked with the historically significant portions of the facility.



The team recommended and retained local consultants to use Ground Penetrating Radar to survey undocumented underground utilities. This significantly reduced government risk for cost escalation during construction. When the project requirements for temporary quarters changed, VAA along with RSP provided planning and construction phasing plans to accommodate that need on site while maintaining the overall project schedule and budget. Extensive remodeling and utility work to a historic former NIKE missile installation, programming, planning, and documentation for temporary quarters and construction phasing were provided.

Challenges/Resolutions

The primary challenge for this project was that the installation was previously a NIKE missile station of historic merit according to the NY SHPO. The original program and planning called for the demolition of several historically significant structures. The timeframe for the process required to obtain SHPO approval for the demolition could have imposed an unacceptable delay on the construction process and users plans for occupancy. The design team took action by meeting with the New York State SHPO to discuss their concerns and possible options. The team was able to work closely with the installation and SHPO to locate new buildings so as not to require removal of any historic structures. Since the installation itself is historically significant, the team provided SHPO with 3-D image studies to demonstrate how the design mitigated visual impacts of the new construction. As a result, the project obtained SHPO approval and was able to proceed on schedule. Furthermore, the team’s strategy to allow buildings to remain resulted in saving the Government cost by maintaining the structures rather than demolishing them.

Because the project site was previously a secure NIKE missile station, as-built documentation of the facility was not available, which created another challenge. The site included abandoned missile silos and the strong likelihood of an extensive subsurface utility infrastructure extending throughout the property and beyond. This presented a significant risk to the government for changed condition claims during construction. The team proposed Ground Penetrating Radar to survey for underground utilities. This information both informed the design and was included in the bid documents. As a result, this process identified substantial underground utilities that would not have otherwise been know prior to construction thus protecting the government from significant changed condition claims.

Due to the extent of renovation, the project was required to meet current ATFP requirements but the original project was constructed prior to the current blast requirements for walls and windows. Accommodating this within the existing floor plate and structure was a challenge. RSP and VAA designed a steel sub frame system for reinforcing the window opening that eliminated the need for removal of any exterior wall. As a direct result, this system allowed the contractor to work continuously on large areas of the project. Their forces could complete demolition and new interior work for the renovation while the shell for the addition was constructed and move seamlessly into the addition. This allowed for faster completion of the training building the project construction. Accelerating the completion and re-occupancy of the training building allowed the temporary offices to be removed and the OMS constructed within the original project schedule requirements.

Construction Cost: \$15 million

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
a.	(1) FIRM NAME RSP Architects	(2) FIRM LOCATION <i>(City and State)</i> Minneapolis, MN	(3) ROLE Project Management, Planning, Architectural, Interior Design
b.	(1) FIRM NAME VAA, LLC	(2) FIRM LOCATION <i>(City and State)</i> Plymouth, MN	(3) ROLE Structural Engineering

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER
4

21. TITLE AND LOCATION <i>(City and State)</i> Repair Runway 14L-32R Naval Air Station Oceana – Virginia Beach, VA Title I Services	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2006	CONSTRUCTION <i>(If applicable)</i> 2007

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER NAVFAC Mid-Atlantic	b. POINT OF CONTACT NAME Albert Romero Civil Engineer	c. POINT OF CONTACT TELEPHONE NUMBER (904) 542-6670 albert.romero@navy.mil
--	---	--

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

RW Armstrong (now CHA Consulting, Inc.) was contracted as the Designer of Record for the Repair of Runway 14L-32R at Naval Air Station Oceana. This project is a Title 1, Runway Design and involved the repair / replacement of a large portion of the runway in addition to other portions of the airfield pavement.



Scope of Work

Planning, Permitting, Design Engineering, and Construction Administrations Services performed for the project include:

- Field Surveys
- Pavement Inspections
- Wetland Delineation
- Wetland Permitting
- Storm Water Discharge (NPDES) Permit Compliance
- Airfield Pavement Design Calculations
- Airfield Geometric Design (Horizontal and Vertical)
- Airfield Pavement Markings
- Construction Safety and Phasing Plans
- Storm Water Management Design Calculations (Hydrologic and Hydraulic)
- Storm Drain Plan and Profile Sheets
- Storm Structure Design
- Utility restoration design using HDPE slip-lining
- Airfield Electrical Load Calculations
- Construction Plans
- Construction Specifications
- Design Quality Control
- Construction Administration (Shop Drawing Review, Responding to contractor questions, Site Inspections, Record Drawings)

PROJECT RELEVANCE TO TITLE I SERVICES:

- Complete design
- Field study / Investigation
- Cost studies / estimating
- Modernization of systems
- Topographic survey
- Construction Management
- Field Study / Investigation
- Consultation/Evaluations
- Project Scope/Phasing
- Infrastructure Systems Upgrade
- Value Engineering

Pavement Rehabilitation

- Pavement inspection, site survey, and identification of repairs for an 8,000' x 150' runway and 25,300 sy of apron pavement
- Pavement repairs included full depth concrete slab replacement, full depth slab repairs, spall repairs, concrete joint resealing, asphalt milling and overlay, and full reconstruction of concrete blast pad and hold apron pavement
- Asphalt pavement milling and overlay profile and transverse grade adjustments were made through the intersections of two runways to improve storm water runoff
- New runway markings, in accordance with NAVAIR guidelines, were provided
- Two new service vehicle access roads and access pavement around the aircraft arrestor cable equipment
- Installation of new steel plate protection systems at the arrestor cables

Drainage Improvements

- The project included removal and replacement of 27,000 lf of storm drain pipe and catch basin systems
- Existing storm lines were rehabilitated by use of HDPE slip-lining under existing pavement including installation of additional manholes at the start and end points of the liner
- The drainage system was designed within the permit restriction that flows not increase the total system discharge
- New drainage structures (130) were designed to be aircraft rated

Threshold Lighting Improvements

- The threshold lighting on Runway 14L and 32R approaches were upgraded to comply with NAVAIR requirements
- Work included new semi-flush and elevated fixtures, power cable, conduit, and counterpoise grounding

Wetland Permitting

- The project involved preparation of a Wetlands Delineation report for the areas within the project limits for storm drain replacement
- Based on the delineation, the design team coordinated with the Army Corps, NAVFAC, and the Virginia Department of Environmental Quality to prepare and submit the wetland permit for approval
- The permit was issued prior to construction



Construction Cost: \$11.3 million

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (<i>City and State</i>)	(3) ROLE
a.	RW Armstrong (now CHA Consulting, Inc.)	Cleveland, OH Indianapolis, IN	Designer of Record

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 5
---	---

21. TITLE AND LOCATION (City and State) Runway 10-28 Safety Area Improvement Program Cleveland Hopkins International Airport – Cleveland, OH Title II Services	22. YEAR COMPLETED <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">PROFESSIONAL SERVICES 2009</td> <td style="width:50%;">CONSTRUCTION (If applicable) 2012</td> </tr> </table>	PROFESSIONAL SERVICES 2009	CONSTRUCTION (If applicable) 2012
PROFESSIONAL SERVICES 2009	CONSTRUCTION (If applicable) 2012		

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER City of Cleveland Department of Port Control	b. POINT OF CONTACT NAME Renato Camacho, P.E., PTOE Chief of Engineering & Planning	c. POINT OF CONTACT TELEPHONE NUMBER (216) 265-6793 rcamacho@clevelandairport.com
--	--	--

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

As part of the Runway 10-28 Safety Area Improvement Program at Cleveland-Hopkins International Airport, ***RW Armstrong (now CHA Consulting, Inc.) provided planning, environmental, final design, bid and award, and construction management services including onsite inspection***, for the City of Cleveland. The project shifts Runway 10-28 330 ft to the east allowing for the installation of Engineered Materials Arresting System (EMAS) beyond both runway ends. In addition to shifting the runway, the 28 threshold was raised 8 ft to keep obstacles from penetrating the Category I Instrument Landing System approach surface. The overall project was strategically bid as two separate packages in 2010 to secure FAA discretionary funding in both FY2010 and 2011. Major construction was completed in 2011 and final punch list and closeout completed in 2012.



Scope of Work (Construction Phase)

During the construction phase of this project we provided a Resident Project Engineer to provide construction management services. This allowed us to immediately identify and address any issues directly with the construction personnel to ensure the construction of the project was according to the specification and plans. It also helped us control the quality, cost, and schedule of the construction through timely and effective interpretation of the plans and specifications, rapid responses to Requests for Information, collaborative approach to resolving construction issues, and proactive approach to outside agency coordination with FAA and local environmental permitting agencies. The project was delivered on time and under budget due to the ability of reviewing the contractor's construction schedule which allowed us to provide comments and recommendations for schedule improvements and compliance.

PROJECT RELEVANCE TO TITLE II SERVICES:

- Construction Quality Assurance
- Construction Progress Monitoring
- Progress/Coordination Meetings
- Document Control & Progress Reports
- Contract Performance Monitoring
- Monitoring Cost and Schedule
- Management Inspection Staff
- Submittal Review/Approval
- Response to RFIs
- As-Builts & Shop Drawings
- Final Inspection & Punch List

The resident engineer participated in weekly construction progress meetings, issued meeting minutes, tracked the resolution of open issues, and documented decisions and direction provided to the contractor. We were able to validate as-built quantities and provide estimates to complete based on construction plans and field conditions. This process identified areas of cost savings and potential cost overruns, and enabled the team to deliver the project within the grant budgets financing the work. The team of construction inspectors monitored, documented, and identified areas of compliance or non-compliance with the plans and specifications. They provided daily inspection reports, and daily measurements of construction quantities. Quality Assurance Testing efforts included field and laboratory testing required by the contract specifications for material acceptance. Testing included earth and aggregate compaction, concrete flexural and compressive strength, slump, air content, bituminous pavement materials testing for density, bitumen content, and air voids.

Construction work included excavation and embankment construction, Portland cement concrete and bituminous concrete pavements, pavement underdrains, storm drain installation, storm drain structures, a dry detention basin, electrical duct banks, electrical manholes, runway and taxiway edge lighting, taxiway centerline lights, airfield guidance signs, Medium Intensity Approach Lighting System with Sequenced Flashers (MALSF), Glide Slope antenna and shelter relocation, Precision Approach Path Indicators (PAPI's), Runway End Identification Lights (REILS), airport perimeter service road, airfield construction safety and phasing plan implementation including two temporary relocated thresholds, EMAS installation, seeding and mulching. ***RW Armstrong's involvement during the construction phase of this project proved to be of great benefit to our client and to the overall delivery of the project by providing all core services under one team.***

Challenges/Resolutions

Maintaining the airfield open to continue daily operations in a safely manner was one of our biggest challenges. To accomplish this we provided the following:

- Developed detailed construction safety and phasing plans in accordance with FAA criteria.
- Coordinated temporary airfield operational impacts with airport operations, the air traffic controllers, and the airport users (airlines), and developed solutions that minimized the impacts and maintained safety standards.
- Utilized temporary relocated thresholds to keep existing runways open during the construction activities within their safety areas and approaches.
- Monitored airfield safety continuously during the construction

Our approach provided for the completion of this project without any airfield safety incidents and no unplanned runway closures or interruptions during the construction.

Construction Elements:

- Shifted the Runway 28 threshold 330 ft to the east while raising the threshold elevation by 8 ft
- Relocated approximately 1,700 ft of the Runway 28 end perimeter road
- Shifted the Runway 10 threshold 330 ft to the east, which resulted in raising the threshold elevation by 5 ft
- Constructed a new west perimeter road behind the Runway 10 RSA
- Relocated Taxiway 'B' at Runway 10 and Taxiway 'J' at Runway 28 to align with the new threshold locations. Realigned Taxiway 'D' to provide an acute angle exit and reduce runway occupancy time for Runway 28 arrivals. Reconstructed and shifted Taxiway 'U' to the east to match the new runway profile. Relocated Taxiway 'Y' to remain within the line of sight of the future ATCT.
- Replaced and/or rehabilitated 4,100 ft of pavement on Runway 10-28 to raise the threshold elevations and corrected deficiencies in the vertical alignment of the runway
- Replaced and/or provided sections of shoulder pavement along Runway 10-28 and several adjoining taxiways
- Airfield signing, lighting, and pavement markings for Runway 10-28 and taxiways
- Installed a new Runway 28 Medium Intensity Approach Lighting System with Sequenced Flashers (MALSF)
- Relocated Runway 28 glide slope antenna and equipment shelter providing a Threshold Crossing Height (TCH) that maximized the landing length of Runway 28 while maintaining the existing minima
- Replaced the existing Sideband Reference 28 Glideslope with a Capture Effect Glide Slope
- Relocated the Runway 28 localizer antenna and Distance Measuring Equipment (DME) to allow for construction of new west perimeter road
- Provided resident engineering, construction observation, and quality assurance testing through the construction



Construction Cost: \$47 million

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	RW Armstrong (now CHA Consulting, Inc.)	Cleveland, OH Indianapolis, IN	Prime consultant providing planning, environmental, final design, bid and award, and construction management services
b.	McGuinness Unlimited	Cleveland, OH	Cost estimating

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 6
---	---

21. TITLE AND LOCATION (City and State) The Campus Of United States Merchant Marine Academy Building Evaluation Report Kings Point, New York Other AE Services	22. YEAR COMPLETED <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">PROFESSIONAL SERVICES 2013</td> <td style="width:50%;">CONSTRUCTION <i>(If applicable)</i> N/A</td> </tr> </table>	PROFESSIONAL SERVICES 2013	CONSTRUCTION <i>(If applicable)</i> N/A
PROFESSIONAL SERVICES 2013	CONSTRUCTION <i>(If applicable)</i> N/A		

23. PROJECT OWNER'S INFORMATION		
a. PROJECT OWNER United States Department of Transportation	b. POINT OF CONTACT NAME Douglas Pader	c. POINT OF CONTACT TELEPHONE NUMBER (516) 726-5840

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

CHA prepared a Building Evaluation Report (BER) for the USMMA in Kings Point, NY. CHA conducted an evaluation of the mechanical and electrical systems along with an assessment of potential hazardous materials in 48 buildings on the campus. The evaluation identified deficient conditions and estimated the cost for required repairs. The BER will be used by the USMMA in support of Repair and Alteration, Major Renovations and New Construction projects required to ensure short term operational continuity of the buildings. In addition, it will be used to plan for long term major capital reinvestments in the buildings for long term utilization.

- PROJECT RELEVANCE OTHER AE SERVICES:**
- Technical Studies/Review
 - Analysis
 - Cost Studies
 - Investigations
 - Sustainable Infrastructure Assessment
 - Life Cycle Cost Analysis
 - Data Collection/Analysis

Field work for this project was conducted utilizing handheld tablets computers and a proprietary software system developed by CHA to capture information regarding existing conditions as well as digital photos. The information obtained was then presented in a database format that provides a variety of reporting options. The use of this technology greatly increased the efficiency of the field staff.

Construction Cost: N/A



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT		
a. (1) FIRM NAME CHA Consulting, Inc	(2) FIRM LOCATION (City and State) Albany, NY	(3) ROLE Professional Engineering Services

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 7
---	--

21. TITLE AND LOCATION <i>(City and State)</i> Pavement Management Support Services Cleveland Hopkins International Airport – Cleveland, OH Other AE Services	22. YEAR COMPLETED <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">PROFESSIONAL SERVICES 2009</td> <td style="width: 50%; text-align: center;">CONSTRUCTION <i>(if applicable)</i> 2009</td> </tr> </table>	PROFESSIONAL SERVICES 2009	CONSTRUCTION <i>(if applicable)</i> 2009
PROFESSIONAL SERVICES 2009	CONSTRUCTION <i>(if applicable)</i> 2009		

23. PROJECT OWNER'S INFORMATION

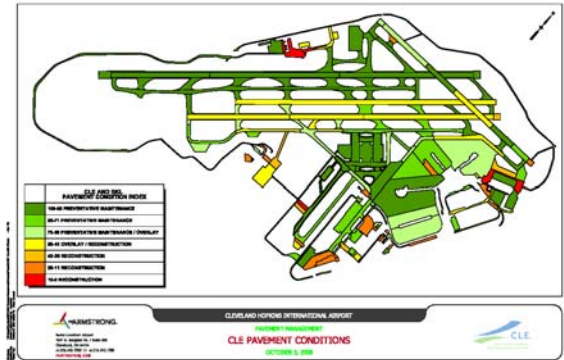
a. PROJECT OWNER City of Cleveland Department of Port Control	b. POINT OF CONTACT NAME Renato Camacho, P.E., PTOE Chief of Engineering & Planning	c. POINT OF CONTACT TELEPHONE NUMBER (216) 265-6793 rcamacho@clevelandairport.com
--	---	--

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

RW Armstrong (now CHA Consulting, Inc.) provided on-call Pavement Management Support Services to the City of Cleveland Department of Port Control for their 2008 Pavement Maintenance Program Update. The Pavement maintenance program addresses airfield and landside pavements at both Cleveland Hopkins International Airport, and Burke Lakefront Airport. This indefinite delivery task order contract included four tasks that are described below.

Executed Task Orders

1. **Miscellaneous Work** – This task was set aside to enable the RW Armstrong Team to assist DPC engineering and maintenance on emergency issues that may occur throughout the year. The task was not utilized in 2008.
2. **Pavement Joints and Standards** – The RW Armstrong Team developed standard practices for concrete pavement joint sealants based on performance history at CLE and at other air carrier airports in the Great Lakes Region. The result of this effort is a brief guide with recommendations on sealants and a set of standard joint sealant construction details.
3. **Pavement Management System Support Services** – The RW Armstrong Team provided an Engineer to work with the DPC Project Manager to implement and maintain the Pavement Management Program for CLE and BKL. The work involved the development of inspection requirements and conducting pavement inspections, input and maintenance of the pavement database using the PAVER software available through the US Army Corp of Engineers, and updating cost estimates for the pavement maintenance activities, all as directed by the DPC Project Manager. This work effort was a true extension of the DPC staff.
4. **PAVER Costs and Standard Report** – The RW Armstrong Team developed cost estimates for various types of pavement repairs, rehabilitation, and reconstruction that are envisioned at CLE and BKL for the airside pavements. These costs estimates were used to develop budgets for maintenance and repairs to the airside pavements to maintain the pavements above FAA recommended levels for the Pavement Condition Index (PCI). The PCI was calculated by MicroPAVER based on inspection data and historical pavement performance collected in Task 3. Using the PCI and cost data, and the capabilities of the MicroPAVER program, RW Armstrong developed a standard report for the DPC.



PROJECT RELEVANCE TO OTHER AE SERVICES:

- PCI Surveys
- Runway Structural Evaluations
- Pavement Evaluation and Assessment
- Publication development

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a. (1) FIRM NAME RW Armstrong (now CHA Consulting, Inc.)	(2) FIRM LOCATION <i>(City and State)</i> Cleveland, OH	(3) ROLE Civil Engineering
b. (1) FIRM NAME McGuinness Unlimited	(2) FIRM LOCATION <i>(City and State)</i> Cleveland, OH	(3) ROLE Cost Estimator

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 8
---	---

21. TITLE AND LOCATION (City and State) NS Great Lakes Renovation & Expansion Club/Entertainment Complex Great Lakes, IL Other AE Services	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2011	CONSTRUCTION (If applicable) N/A

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER Commander, Navy Installations	b. POINT OF CONTACT NAME Lee Dixon	c. POINT OF CONTACT TELEPHONE NUMBER (901) 874-6736
---	---	--

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

CHA was issued a Task Order under an IDIQ Contract to prepare a Project Validation Assessment (PVA) document to determine the feasibility of renovating and expanding an existing Club/Entertainment facility at NS Great Lakes. The proposed project included the renovation of the existing Pier 525 facility and incorporation of a new 28 lane Bowling Center. The rehabilitation of the existing 32,000 sf facility includes the installation of a new heating and air conditioning system, new restrooms, new entrance, interior painting, and some interior wall and floor improvements. CHA's investigation and analysis of the facility also considered the need to renovate the facility in several different configurations. The estimated total cost of the project was \$14,880,000.

CHA prepared the PVA document based on the requirements set forth by CNIC. Key sections of the PVA included the following:

- Market Analysis
- Architectural Analysis
- Operational Analysis
- Financial Analysis
- DD Form 1391 and Supporting Cost Estimate
- Financial Analysis Template

PROJECT RELEVANCE TO OTHER AE SERVICES:

- Concept and Complete Design
- Field Study / Investigation
- Consultation/Evaluations
- Project Scope
- Cost Analysis
- Technical Studies/Review
- Document Development
-

The PVA determined the project's Internal Rate of Return (IRR) and the years for payback. Key issues for this project included the anticipated usage and revenue generation of the facility, costs for maintenance and employees, and competition from other bowling centers and restaurants in the area. The PVA also included a detailed project cost estimate to support the DD Form 1391.

CHA conducted Focus Group interviews with various groups of anticipated facility users. These groups included students, active duty personnel (enlisted and officers), and DoD personnel. These interviews provided detailed information regarding the preferences of individuals who utilize the existing bowling facility and the Pier 525 facility at the Installation and similar facilities in the surrounding area.

CHA, as part of the Market Analysis, also gathered information regarding existing bowling centers and restaurants in the area that were identified as potential competing facilities. CHA personnel visited four bowling centers and four restaurants in close proximity to the Installation to observe conditions, gather information regarding fees, and to talk with facility managers and users.

Construction Cost: \$14,880,000 (estimated)

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a. (1) FIRM NAME CHA Consulting, Inc.	(2) FIRM LOCATION (City and State) Albany, NY	(3) ROLE Prime – Consulting Services
--	--	---

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 9
---	---

21. TITLE AND LOCATION (City and State) UFC Update – Army Reserve Design Guide UFC 4-171-05 Military Document Development Other AE Services	22. YEAR COMPLETED <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">PROFESSIONAL SERVICES 2012</td> <td style="width:50%; text-align: center;">CONSTRUCTION (If applicable) N/A</td> </tr> </table>	PROFESSIONAL SERVICES 2012	CONSTRUCTION (If applicable) N/A
PROFESSIONAL SERVICES 2012	CONSTRUCTION (If applicable) N/A		

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER USACE, Louisville District	b. POINT OF CONTACT NAME Mary Ann Just	c. POINT OF CONTACT TELEPHONE NUMBER 502-315-6365
--	---	--

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)



The project consists of a comprehensive update and value engineering of the Army Reserve's Design Guide, UFC 4-171-05, utilizing all of our team's design disciplines. The Guide is approximately 300 pages. Full service A-E disciplines were provided to update manual to reflect current Army Reserve and DoD policies and priorities. The Army Reserve, through USACE Louisville IDIQ contracts, has been a client of the RSP for over 20 years. During that time we've had the opportunity to develop or update many of their criteria documents. This UFC, commonly known as the Design Guide, is the centerpiece of USACE Army Reserve design and construction criteria. The Design Guide serves as the Army Reserve's "institutional memory" of their standards, preferences, lessons learned, and best practices for their various construction programs. The publication will be used extensively for USACE MILCON new construction, SRM, full facility revitalization, design/build, and real property exchange acquisitions

Scope of Work

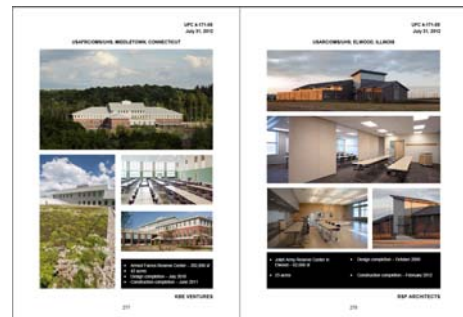
We've worked closely with our client to ensure that the Design Guide incorporates and preserves the myriad decisions made and experience gained over the years about how their soldiers operate, and how their facilities can best support the operations. We've organized the document for ease of use.

Project is a Prototype Design; Technical Study/Review, Analysis which included:

- Incorporated a 4-1/2 day value engineering exercise addressing Army Reserve design and construction standards, and acquisition process
- Conducted 3 draft/review cycles to build consensus
- Developed presentations and facilitated three PDT working/review meetings
- Provided white papers to support decision-making for flooring, recycling requirements, accessibility for the disabled, clear zones, etc.
- Developed checklist of Army Reserve preferred LEED credits
- Gathered input from Army Reserve Installation Management Directorate (ARIMD), Army Reserve Regional Support Command (RSC) facility operators, soldier facility users, constructors, and designers
- Reviewed and coordinated by individual design disciplines throughout update process
- Incorporated hyperlinks, updated graphics, figure, and photography
- Assisted certified value specialist and Army Reserve in evaluating 200 value engineering proposals
- Worked with Army Reserve, USACE, and A/E Project Delivery Team (PDT) of 35 people
- Months of studies, investigations, interviews, and value analysis in a collaborative multi-office, nationwide team environment resulting in 300 pages of UFC 4-171-05 design guidance presented clearly and concisely.

PROJECT RELEVANCE TO OTHER AE SERVICES:

- Prototype Design
- Technical Studies
- Reviews/Analysis
- Design & Policy Manuals
- Design Guides & Standards



Issues addressed in the update were:

- Practical guidance for meeting low impact development mandate
- Updated mailroom antiterrorism measures
- Recycling space for LEED resource-use reduction
- Revised standard kitchen for increased energy-efficiency
- Incorporated recent furniture system revisions
- Developed new Organizational Maintenance Shop concept to address changes to Army maintenance strategy
- Clarified weapons simulator space and finish requirements
- Incorporated pavement alternatives to allow for increased sustainability while controlling cost
- Developed policy for solar site lighting
- Incorporated RSC preferences.

Challenges/Resolutions

One of the challenges encountered during this update was to address the growing list of mandates for sustainable facilities and reduction of resource use, in the face of anticipated budget reductions.

Working with our clients, we identified measures that will help achieve the mandated goals, with the least impact on operations and maintenance. The manual also directs that A/E contractors provide project users with summaries of maintenance requirements for new strategies required to meet the mandates – during design, so that the users are able to make informed choices about alternative strategies.



Construction Cost: N/A

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
a.	(1) FIRM NAME RSP Architects	(2) FIRM LOCATION (<i>City and State</i>) Minneapolis, MN	(3) ROLE Planning, Architect, Project Management, and Interior Design
b.	(1) FIRM NAME VAA	(2) FIRM LOCATION (<i>City and State</i>) Minneapolis, MN	(3) ROLE Structural Engineering

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 10
---	--

21. TITLE AND LOCATION (City and State) NS Guantanamo Bay Cooper Field RFP Guantanamo Bay, Cuba Title I Services	22. YEAR COMPLETED <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center; padding: 5px;"> PROFESSIONAL SERVICES 2007 </td> <td style="width: 50%; text-align: center; padding: 5px;"> CONSTRUCTION (If applicable) 2008 </td> </tr> </table>	PROFESSIONAL SERVICES 2007	CONSTRUCTION (If applicable) 2008
PROFESSIONAL SERVICES 2007	CONSTRUCTION (If applicable) 2008		

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER Commander, Navy Installations Command	b. POINT OF CONTACT NAME Dave Munnell	c. POINT OF CONTACT TELEPHONE NUMBER (901) 874-6667
---	--	--

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

CHA was issued a Task Order under an IDIQ contract and was responsible the preparation of an RFP including full design documents for renovations at the Cooper Field athletic complex at NS Guantanamo Bay, Cuba. Due to limitations in the availability of fresh water for irrigation purposes, the existing natural turf athletic fields at the site were significantly degraded resulting in poor playing conditions. In addition, ancillary facilities at the complex including the sports field lighting, and the concession/maintenance building were substandard. As part of CHA's scope of services, we conducted several conceptual design meetings with CNIC, the Installation's MWR and Public Works staffs at the base to determine facility utilization and the proposed project goals. Based on these meetings, CHA prepared initial concept design plans and began the detailed design process that culminated with the issuance of the RFP including full construction documents. The construction documents included design of the following project components:



- Synthetic turf football/soccer field, 360' L x 200' W
- Synthetic turf tournament baseball/softball field, 300' all fields
- Synthetic turf baseball/softball field, 300' R, 289' C & 258' L
- Synthetic turf multi-purpose field, 210' L x 200' W
- Synthetic surface 400 meter 6-lane track
- Fencing, backstops & dugouts
- Concession stand/restroom/press box building, 1,550 sf
- Maintenance building, 650 sf
- Concrete plaza area
- Sports lighting
- Sports scoreboards (4)
- Site utilities

PROJECT RELEVANCE TITLE I SERVICES:

- Concept and Complete Design
- Field Study / Investigation
- Consultation/Evaluations
- Project Scope/Phasing
- Topographic Survey
- Infrastructure Systems Upgrade
- Value Engineering

Following a proposal period, the project was awarded in two contracts to FieldTurf and Prime Projects International. During the construction phase, CHA provided Title II related services that included review of contractor submittals and periodic site visits to observe critical construction elements. These elements included the drainage layers associated with the synthetic turf fields and installation of the turf infill systems.

Construction Cost: \$7,200,000

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a. (1) FIRM NAME CHA Consulting, Inc.	(2) FIRM LOCATION (City and State) Albany, NY	(3) ROLE Prime – Professional Engineering Services
--	--	---

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 11
---	---

21. TITLE AND LOCATION <i>(City and State)</i> NAS Jacksonville All-Hands Club Jacksonville, FL Title I Services	22. YEAR COMPLETED <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">PROFESSIONAL SERVICES 2007</td> <td style="width:50%;">CONSTRUCTION <i>(If applicable)</i> 2009</td> </tr> </table>	PROFESSIONAL SERVICES 2007	CONSTRUCTION <i>(If applicable)</i> 2009
PROFESSIONAL SERVICES 2007	CONSTRUCTION <i>(If applicable)</i> 2009		

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER Commander, Navy Installations Command	b. POINT OF CONTACT NAME Shayne Jones	c. POINT OF CONTACT TELEPHONE NUMBER (901) 874-6795
--	---	---

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

CHA was issued a Task Order under an IDIQ Contract to prepare a Project Validation Assessment (PVA) document to determine the feasibility of a new All-Hands Club at NAS Jacksonville. The proposed project included the development of an approximately 25,000 sf club facility to replace an existing out of date facility that was located in a building that needed major renovations to remain in operation. The club facility was proposed to include a theme restaurant, CPO Club, and a bingo/ banquet hall. In addition, the facility required approximately 200 parking spaces. The estimate cost of the project was \$8,203,000. CHA prepared the PVA document based on the requirements set forth by CNIC. Key sections of the PVA included the following:



- Market Analysis
- Architectural Analysis
- Operational Analysis
- Financial Analysis
- DD Form 1391 and Supporting Cost Estimate
- Financial Analysis Template

The PVA determined the project's Internal Rate of Return (IRR) and the years for payback. Key issues for this project included the ability for the facility to adequately address the needs of several specific user groups. The PVA also included a detailed project cost estimate to support the DD Form 1391. The project was recommended for approval.

As part of the PVA process, CHA conducted Focus Group meetings with various groups of facility uses including junior and senior enlisted personnel, officers, and other eligible DoD personnel. The purpose of these Focus Groups was to identify key issues regarding the existing facility and to gain a user's perspective regarding plans for the new facility.

CHA, as part of the Market Analysis, also gathered information regarding restaurants in the area that were identified as potential competing facilities. CHA personnel visited four restaurants in close proximity to the Installation to observe conditions, gather information regarding fees, and to talk with facility managers and users.

Following the review of the PVA, the project was approved and a Request for Proposal for a design/build contract was prepared by CHA. A design build contract was issued and the project was completed in 2012. The facility is currently open and serving the needs of NAS Jacksonville.

PROJECT RELEVANCE TO TITLE I SERVICES:

- Concept Design
- Field Study / Investigation
- Consultation/Evaluations
- Project Scope/Phasing
- Topographic Survey
- Infrastructure Systems Upgrade
- Value Engineering

Construction Cost: \$8,200,000

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a. (1) FIRM NAME CHA Consulting, Inc.	(2) FIRM LOCATION <i>(City and State)</i> Albany, NY	(3) ROLE Prime – Professional Engineering Services
---	--	--

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 12
---	--

21. TITLE AND LOCATION (City and State) NS Norfolk & NAS Oceana Track & Field Design Norfolk and Virginia Beach, VA Title I Services	22. YEAR COMPLETED <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center; padding: 5px;">PROFESSIONAL SERVICES 2011</td> <td style="width: 50%; text-align: center; padding: 5px;">CONSTRUCTION (If applicable) 2012</td> </tr> </table>	PROFESSIONAL SERVICES 2011	CONSTRUCTION (If applicable) 2012
PROFESSIONAL SERVICES 2011	CONSTRUCTION (If applicable) 2012		

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER Commander, Navy Installations Command	b. POINT OF CONTACT NAME Dave Munnell	c. POINT OF CONTACT TELEPHONE NUMBER (901) 874-6667
---	--	--

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

CHA was issued a Task Order under an IDIQ contract and was responsible the preparation of full design documents for renovations at the SP and Q sites at NS Norfolk and the 5th Street site at NAS Oceana. Due to limitations regarding field maintenance, field irrigation, and the usage of the fields, the existing natural turf athletic fields at the site were significantly degraded resulting in poor playing conditions. In addition, ancillary facilities at the complexes including the sports field lighting, and the track (Oceana site) were substandard. As part of CHA's scope of services, we conducted several conceptual design meetings with CNIC, the Installation's MWR and Public Works staffs at the each Installation to determine facility utilization and the proposed project goals. Based on these meetings, CHA prepared initial concept design plans and began the detailed design process that culminated with the issuance of the full construction documents. The construction documents included design of the following project components:

- SP Site: Synthetic turf flag football/soccer field, 300' L x 160' W, 3 Lane synthetic track
- Q Site: Synthetic turf softball fields (2), soccer field 360'L x 200' W, flag football fields (2), 300' L x 120' W
- 5th Street Site: Synthetic turf flag football field, 300' L x 120' W, soccer field 300' L x 160' W
- 5th Street Site: Synthetic 6 Lane Track surface
- Fencing, backstops & dugouts
- Under drain systems
- Utility re-routing
- Concrete plaza area
- Sports lighting (SP & Q sites)
- Site utilities

PROJECT RELEVANCE TO TITLE I SERVICES:

- Concept and Complete Design
- Field Study / Investigation
- Consultation/Evaluations
- Project Scope/Phasing
- Topographic Survey
- Infrastructure Systems Upgrade
- Value Engineering



Following a bidding period, the project was awarded for construction. During the construction phase, CHA provided Title II related services that included review of contractor submittals and periodic site visits to observe critical construction elements. These elements included the drainage layers associated with the synthetic turf fields and installation of the turf infill systems.

Construction Cost: \$3,700,000

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a. (1) FIRM NAME CHA Consulting, Inc.	(2) FIRM LOCATION (City and State) Albany, NY	(3) ROLE Prime – Professional Engineering Services
--	--	---

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 13
---	--

21. TITLE AND LOCATION (City and State) NWS Seal Beach RV Lot Expansion RFP Seal Beach, CA Title I & II Services	22. YEAR COMPLETED <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">PROFESSIONAL SERVICES 2011</td> <td style="width:50%;">CONSTRUCTION (If applicable) N/A</td> </tr> </table>	PROFESSIONAL SERVICES 2011	CONSTRUCTION (If applicable) N/A
PROFESSIONAL SERVICES 2011	CONSTRUCTION (If applicable) N/A		

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER Commander, Navy Installations Command	b. POINT OF CONTACT NAME Al Miller	c. POINT OF CONTACT TELEPHONE NUMBER (901) 874-6878
---	---	--

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

CHA was issued a Task Order under an IDIQ contract and was responsible the preparation of an RFP including full design documents for expansion of an existing RV lot at NWS Seal Beach. The existing RV Storage Lot No. 2 at Seal Beach was overcrowded and its pavement surface was worn. In order to service the needs of its customers, the Installation's MWR Department desired a new larger lot with a variety of different sized RV spaces. As part of CHA's scope of services, we conducted several conceptual designs and presented them to CNIC and the Installation's MWR Department. These concepts showed a variety of different sized space to meet their needs. In addition, in order to provide for storm water management in compliance with Low Impact Design guidelines, CHA met with Installation Environmental personnel to discuss the most appropriate way to manage stormwater run-off. Based on these meetings, CHA prepared initial concept design plans and a Storm Water Management Report that culminated with the preparation of detailed design drawings and the issuance of the RFP including full construction documents. The construction documents included design of the following project components:

PROJECT RELEVANCE TO TITLE I SERVICES:

- Concept and Complete Design
- Field Study / Investigation
- Consultation/Evaluations
- Project Scope/Phasing
- Topographic Survey
- Infrastructure Systems Upgrade
- Value Engineering

- Removal and milling of the existing 88,000 sf storage lot surface
- Pavement and subbase placement of a 200,000 sf storage lot expansion
- Two motorized gates with remote access monitoring capabilities
- Perimeter lot fencing
- New site electrical service
- Site landscaping and signage in accordance with Installation standards
- Site bio-swale to treat stormwater from the site

Following a proposal period, the project was awarded to Ponciano Construction. CHA will provided Title II related services that included periodic site visits to observe critical construction elements. These elements included the pavement subbase, new pavement and the completed project.

Construction Cost:
\$1,400,000



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a. (1) FIRM NAME CHA Consulting, Inc.	(2) FIRM LOCATION (City and State) Albany, NY	(3) ROLE Prime – Professional Engineering Services
--	--	---

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 14
---	--

21. TITLE AND LOCATION (City and State) NAS Jacksonville All-Hands Club Jacksonville, FL Title I Design - PDIR	22. YEAR COMPLETED <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;"> PROFESSIONAL SERVICES 2011 </td> <td style="width:50%; text-align: center;"> CONSTRUCTION (If applicable) 2013 </td> </tr> </table>	PROFESSIONAL SERVICES 2011	CONSTRUCTION (If applicable) 2013
PROFESSIONAL SERVICES 2011	CONSTRUCTION (If applicable) 2013		

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER USACE New York	b. POINT OF CONTACT NAME Matt Lando	c. POINT OF CONTACT TELEPHONE NUMBER (315) 755-3240
--	--	--

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

CHA was retained by Upstate Construction Services to provide programming, design and construction phase services for a new \$10.5 million dollar hanger facility at the Wheeler Sack Army Airfield to support the Blackhawk and Chinook helicopter operations. CHA's design responsibilities included: Civil Engineering, Landscape Architecture, Mechanical, Electrical and Plumbing. The development of the site design required the preparation of both an extensive storm water management study and erosion sediment control plans. Construction phase services included review/approval of all submittals, response to the contractor's request for information, site observation visits and preparation of final punch list. The project delivery method was through the Design-Build process funded by the US Army Corps of Engineers (COE) and involved an aggressive 12 month construction completion schedule for project delivery to the Army. The hanger addition included a designated aircraft maintenance section with shops, aviation unit operations, Medivac Readiness Space, and Arms Room. The project was designed to achieve LEED Silver Certification and required extensive coordination team meetings be held with both the COE and the end users of the GSAB hangar to ensure that the project was completed within schedule and satisfied the delivery standards.

PROJECT RELEVANCE TO OTHER AE SERVICES PDIR:

- Concept and Complete Design
- Field Study / Investigation
- Consultation/Evaluations
- Project Scope/Phasing
- Topographic Survey
- Infrastructure Systems Upgrade
- Value Engineering

Construction Cost: \$10,200,000



25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a. (1) FIRM NAME CHA Consulting, Inc.	(2) FIRM LOCATION (City and State) Albany, NY	(3) ROLE Prime – Professional Engineering Services
--	--	---

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

15

21. TITLE AND LOCATION (City and State)

**Unlisted Personnel Barracks (UPH)
Fort Hunter Liggett, CA
Title I Services**

22. YEAR COMPLETED

PROFESSIONAL SERVICES
2011

CONSTRUCTION (If applicable)
2013

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

USACE, Louisville District

b. POINT OF CONTACT NAME

Mary Ann Just

c. POINT OF CONTACT TELEPHONE NUMBER

(502) 315-6365

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

RSP and our consultant team provided full architectural, engineering, interior design, and construction administration support for a new Unaccompanied Personnel Housing (UPH) Barracks. Primary facilities include three 3-story units and non-organizational vehicle parking. Each unit is approximately 3,867 SF with two dwelling units on the first two floors and one dwelling unit on the third floor for a total of 10 personnel. The total personnel accommodated by this UPH project is 30. The housing units use the standard 1+1 E floor plan, modified to a three-story configuration.



The non-organizational parking is approximately 1,000 SY. Supporting facilities include sidewalks, curbs and gutters, landscaping, site utilities, storm drainage, electrical, water, sewer, exterior lighting, information systems and signage. These buildings will be of permanent construction with reinforced concrete foundations, concrete floor slabs, wood frames, stucco exterior walls, concrete tile roofing system, Heating, Ventilation, and Air Conditioning (HVAC), plumbing, mechanical systems, and electrical systems.

The team coordinated the design barracks with the Fort Hunter Liggett Installation Design Guide and Master Plan Compliance Guide.

Sustainability: The project has received LEED Silver certification, in accordance with current federal guidance. Major LEED elements of the project include access to public transportation, parking for low-emitting and fuel efficient vehicles, stormwater quality and quantity control, light-colored roof to minimize heat island effect, 40% reduction in water use through low-flow fixtures and other reduction measures, no potable water for irrigation, 32% reduction in energy use through increased insulation/heat recovery measures, construction waste management (75% recycled or salvaged), 10% recycled content, 20% regional materials, and a variety of indoor environmental quality measures. Stormwater design complies with LID and Federal Leadership in Environmental, Energy and Economic Development. HVAC design is in accordance with mandate for exceeding ASHRAE 90.1 requirement by 40%

Construction Cost: \$4.4 million

PROJECT RELEVANCE TO TITLE I SERVICES:

- Complete Design
- Project Scope/Phasing
- Document Development
- LEED Silver Certified
- AT/FP
- Space Planning and Interior Design
- Construction Cost Estimating
- BIM
-

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	RSP Architects, Ltd.	Minneapolis, MN	Architect & Interior Design
b.	VAA	Plymouth, MN	Structural Engineer

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 16
---	--

21. TITLE AND LOCATION (City and State) Full Facility Assessments (FFA) for Army Reserve Training Centers; Milan, Ohio; Independence, Missouri; and Council Bluffs Iowa, CA Title I Services	22. YEAR COMPLETED <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;"> PROFESSIONAL SERVICES 2014 </td> <td style="width:50%; text-align: center;"> CONSTRUCTION (If applicable) Ongoing </td> </tr> </table>	PROFESSIONAL SERVICES 2014	CONSTRUCTION (If applicable) Ongoing
PROFESSIONAL SERVICES 2014	CONSTRUCTION (If applicable) Ongoing		

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER USACE, Louisville District	b. POINT OF CONTACT NAME Ram Vuddagiri	c. POINT OF CONTACT TELEPHONE NUMBER (502) 315-6437
--	---	--

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

The RSP team provided FFAs for three Army Reserve Training Centers. Our work consisted of condition reports, renovation recommendations, and cost estimating. We were charged with providing scopes and estimates for the minimum work required for each project and for the more extensive work required to bring the projects into compliance with new construction requirements. The estimates were used to determine whether the minimum renovation requirements could be met within costs not to exceed 50% of the facility Plant Replacement Value (PRV). If not, the renovations would trigger compliance with new construction standards.

Our team conducted on-site condition assessments and the data was incorporated into the FFA reports along with recommended scopes of work for various renovation categories. Scope included site work and pavement areas, structural remediation, accessibility upgrades, mechanical, electrical, fire protection and IT upgrades necessary to bring the facility into compliance with current Army Reserve program and functionality criteria. Our report also identified added work and costs to meet ATFP, EPACK, LEED, and LID requirements for new construction. Some of the challenges we successfully overcame include:

- In 2013, the main HVAC units of the SGT Long USARC in Independence, MO were replaced. However, a combination of inadequate perimeter heating supply, old and inefficient windows, and little wall insulation was creating serious condensation issues along the windows. We met the challenge by defining an appropriate balance of a new heating distribution system, new windows, and new wall insulation that kept the base project cost below 50% of the PRV.
- The occupying units at the Lyle Deffenbaugh USARC in Council Bluffs, IA are transport companies which have large vehicles that need a great deal of maneuvering room within the MEP. Working closely with the stakeholders, we were able to demonstrate that the current POV and MEP area could be reconfigured to provide both the appropriate maneuvering room and a "right sized" POV lot for the current unit strength. This allows the site disturbance area to remain below a threshold which would trigger additional on site storm water management work, and keeps the base project cost below 50% of the PRV.
- The biggest challenge for the SGT Cooney USARC in Milan, OH was the site layout. The POV is located behind the training building and the access drive runs very close to the building. RSP recommended changes to the driveway to move it outside of a standoff distance that would not require AT/FP building hardening. Avoiding those costs allowed the base project to stay below 50% of the PRV.

PROJECT RELEVANCE TO OTHER AE SERVICES PDRI:

- Type A/Investigative and concept
- Code and Criteria Review
- Criteria Consultant Services
- Scope Development
- Design Criteria and Conceptual Designs
- Planning Studies
- Field Investigations
- Studies and Reports
- Antiterrorism/Force Protection
- Space Planning and Interior Design
- Construction Cost Estimating
- Building Evaluation Reports
- Life Safety Studies
- Fire Protection Measures
- Designed in BIM

RSP subsequently prepared construction documents for all 3 projects; the other two are awaiting funding.

Construction Cost:
Council Bluffs, IA ARC - \$4.87M, Milan, OH ARC - \$3.85M, Independence, MO ARC - \$9.45M

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION (City and State)	(3) ROLE
a.	RSP Architects, Ltd.	Minneapolis, MN	Architect & Interior Design
b.	VAA	Plymouth, MN	Structural Engineer

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 17
---	--

21. TITLE AND LOCATION (City and State) Airport Master Plan, San Antonio, Texas Port of San Antonio Other AE Services	22. YEAR COMPLETED <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center; padding: 5px;"> PROFESSIONAL SERVICES 2013 </td> <td style="width: 50%; text-align: center; padding: 5px;"> CONSTRUCTION (If applicable) 2016 </td> </tr> </table>	PROFESSIONAL SERVICES 2013	CONSTRUCTION (If applicable) 2016
PROFESSIONAL SERVICES 2013	CONSTRUCTION (If applicable) 2016		

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER Port of San Antonio	b. POINT OF CONTACT NAME Richard Crider	c. POINT OF CONTACT TELEPHONE NUMBER (210) 362-7844
---	--	--

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (Include scope, size, and cost)

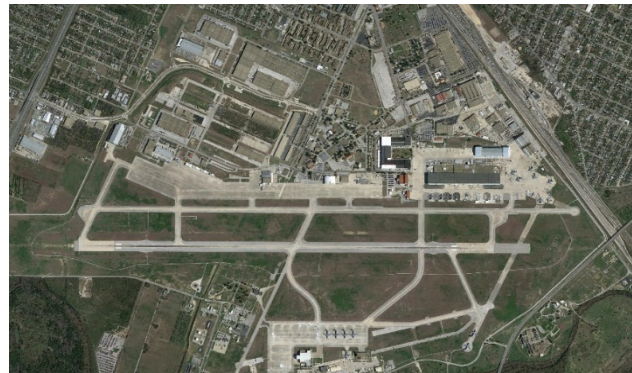
CHA has been providing aviation consulting services to Port San Antonio since early 2012. In January of 2013 CHA was selected for a multi-year Master Planning Contract.

A multi-phase approach for performing these services was developed through coordination with the Authority, the FAA Airports Division, Southwest Region, and the Texas Department of Transportation, Aviation Division. The overarching strategic goals of the ongoing airport master planning and agency coordination efforts are to:

- Capitalize on the existing facilities and infrastructure of this national aviation asset
- Promote the long term operational sustainability and public/civil use of the Airport
- Support regional economic health through global intermodal connectivity and commerce, and promotion of the industrial aerospace business community

PROJECT RELEVANCE TO OTHER AE SERVICES:

- Planning
- Field Study / Investigation
- Consultation/Evaluations
- Project Scope
- Cost Analysis
- Technical Studies/Review
- Document Development



The first phase of this effort included a NPIAS Justification Study that was completed in September 2013. This study included SKF's listing in the Texas Aviation System Plan (TASP) and the execution of a revised Joint Use Agreement with the United States Air Force (USAF), alleviating previous FAA concerns and supports the public use of SKF as a general aviation airport. Based in part on the findings of that Study, and the Authority's ongoing agency coordination efforts, the FAA added SKF to the NPIAS as an "unclassified" general aviation airport in July 2014. By being in the NPIAS and TASP, the airport becomes eligible for Federal and State funding that can be used for planning and capital improvements.

The second phase of the master planning effort is building upon those findings of the NPIAS Study and focusing on the traditional elements of the Airport Master Plan (i.e. aviation forecasts, Airport Layout Plan (ALP), Master Plan narrative). The primary objectives of this phase include:

1. Identification of a preferred airport development strategy that provides flexibility to accommodate changing market/user demands;
2. Preparation of a partial Airport Layout Plan (ALP) drawing set that supports the development of industrial aerospace facilities as the primary dimension of this evolving civil airport;
3. Preparation of a corresponding 10-year Airport Capital Improvement Program (ACIP) and evaluation of its financial feasibility;
4. Documentation of the Study's rationale and findings in an ALP Narrative Report; and
5. Stakeholder and community engagement throughout the process.

The subsequent phases 3 and 4 of this contract are anticipated to include an Airports Geographic Information System (AGIS) submittal, Air Traffic Control Tower (ATCT) Siting Study, Business Development Plan, and an Environmental Assessment.

Cost: \$375,000

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a. (1) FIRM NAME CHA Consulting, Inc.	(2) FIRM LOCATION (City and State) Chantilly, VA	(3) ROLE Prime – Consulting Services
--	---	---