PROJECT PROFILE INDEX & SUMMARY

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**Building Structural & Aesthetic Repair** - Ongoing project in connection with community organization, exterior & interior structural, finish, and plumbing repair

Power House, Alcatraz Island, California  pg. 14-15
**Building Structural Repair** - Interior/exterior façade & interior beam/column repair; historic metal windows/doors integral to façade preserved; vertical & overhead form & pressure pumped concrete

Battery Chamberlin, Golden Gate NRA, California  pg. 16-17
**Structural Repair** - Advanced glass fiber composite reinforcing appropriate for conditions/in compliance with historic preservation standards; vertical & overhead form & pressure pumped concrete, new drainage system, falling concrete safety hazard in open visitor area mitigated
Project Profile: Battleship Row Fleet Moorings, Pearl Harbor

**project** Structural Repair: Infrastructure  
**objectives** Military-to-Civilian Career Training, Historic Preservation, Infrastructure Advancement  
**team** Active Duty Military Service Members  
**completed** Ongoing  
**owner** National Park Service  
**location** Pearl Harbor National Monument, Oahu, Hawaii

Project Highlights

- **Outcomes/Work Items**: Ongoing work to date includes Historic Structure Report writing & associated research, above & below water condition assessment, 3D digital modeling, assistance to NPS on archaeological testing, site specific safety plan, proposed repair project planning; theater building repairs

- **Special Considerations**: The historic Fleet Moorings and USS Arizona Memorial visually define Battleship Row, site of the Dec. 7, 1941 Pearl Harbor Attack; structures included in the Pearl Harbor National Memorial; CPI’s program & partnerships engaging to help ensure Mooring structural durability; existing deteriorated conditions echo the effects of time, use, & environment on infrastructure throughout the U.S.
CPI FOUNDATION PROJECT & TECHNICAL CAPABILITIES

- Expert staff engage hands-on and manage teams of highly qualified and vetted members of our active duty armed forces preparing for transition to civilian careers
- Self-perform concrete, wood, steel, & composite construction as design-build projects coordinated with owners; larger projects include self-performed work in addition to managing consultants & sub-contractors
- Repair, new construction, and historic preservation projects in urban, remote, wilderness, and marine areas include historic structures & site features; visitor & utility facilities; trails; water utility systems; projects that improve access, health, safety, & recreation, including ADA access; roads; bridges; tunnels; and parking lots
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Project Profile: Alcatraz Penitentiary Roof Access

**project** Structural Building Repair

**objectives** Military-to-Civilian Career Training, Historic Preservation, Increase Safe Access

**team** Military Veterans, College Students

**completed** Summer 2015

**owner** National Park Service

**location** Alcatraz Island, San Francisco, California

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*Project Highlights*

- **Outcomes:** Repaired stairs, landing, & structural beams restoring safe access to sole roof entry point

- **Special Considerations:** Character-defining features maintained - stair treads with their story-telling indentations from over a 100 years of foot travel were suspended in place with work completed from below; protected historic Native American wall markings on opposite wall; night work as necessary to minimize disruption of 5,000 daily visitors in adjacent spaces

- **Work Items:** Overhead concrete form & pump under pressure on sloped surface (commonly accepted in industry as among the most technically challenging repair methods); finish concrete to historic texture; build wood formwork & shoring; place steel reinforcing; manage enclosed space working conditions; ensure project site safety for team & NPS staff, and safety for visitors
CPI PROJECT PROFILE details  Alcatraz Penitentiary Roof Access

Beam formwork; new beams support repaired landing at top of stairs
Formwork & safety shoring
Historic concrete stair treads suspended in place while repairs completed from below
Team member

Concrete mixer; repairs completed at night to avoid visitor interruption
Concrete pump with hoses reaching up into confined space
Moving concrete-loaded hose to next port during high-pressure pumping
CPI military veteran participant explaining project during visit from U.S. Army chain of command

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Project Profile: Red Barn

**project** Structural Building Repair, Seismic Stabilization  
**objectives** College Student Field Training, Historic Preservation, Owner Operational Need  
**team** College Students & Community Volunteers  
**completed** 2011-12  
**owner** National Park Service  
**location** Miwok Riding Stables, Golden Gate National Recreation Area, San Francisco, California

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**Project Highlights**

- **Outcomes:** Overall structure repaired, entire building lifted and placed back down on new foundation, seismic stabilization, new roof over historic framing
- **Special Considerations:** NPS goal to rehabilitate the structure for eventual use and mitigate immediate safety concerns due to location in active visitor area; CPI completed project and invited community participation during special open days; NPS staff joined the team for a “barn painting day” at project completion
- **Work Items:** Coordinated with local house moving company to lift entire structure; worked with structural engineer to straighten structure; preserved historic wood members when possible; added new concrete foundation; added new flooring; added interior shear strengthening, added new roof over historic framing to preserve historic appearance from inside; repaired/rebuilt barn doors
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Project Profile: Wheeler Middle School

**project** New Construction: Improved Access  
**objectives** Military-to-Civilian Career Training, Operational Need  
**team** Active Duty Military Service Members  
**completed** Spring 2017  
**owner** U.S. Army  
**location** Wheeler Army Air Field, Wahiawa, Hawaii

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**Project Highlights**

- **Outcomes:** New sidewalk, new bike rack slab & racks, bench footings & installation
- **Special Considerations:** School located on military base; collaborated with teacher/parent association for projects identified as priorities, responded to student request for “buddy bench” footings and installation as a place for kids to meet new friends
- **Work Items:** Develop project plan; develop site lay-out & drainage design, manage military heavy equipment operator; coordinate with local concrete ready-mixed producer to deliver concrete; compact soil & base; place concrete & finish; build wood formwork & shoring; place steel reinforcing; ensure project site safety for team, school staff, and visitors
PROJECT PROFILE details  Wheeler Middle School

Pre-project formwork and ready-mix concrete training
Top & Bottom: Managing heavy equipment work
Preparing sub-grade
Placing pipe to be embedded in concrete
Building custom formwork
Reinforcing steel placement
Measuring & cutting reinforcing
Project planning: site surveying
“Buddy bench” installed
Bike racks installed

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Project Highlights

- **Outcomes:** New precast concrete railing panels, new concrete cast-in place hand-rail and posts with footings into historic stair, new railing system below stair, historic stair treads repaired, reopened to public after many years of closure

- **Special Considerations:** Difficult logistical and safety challenges working next to cliff and transporting materials, equipment, generators, and precast panels weighing nearly 300 pounds to the remote site while ensuring no disturbance to nesting birds

- **Work Items:** Research historic configuration, assess existing conditions, develop site specific safety plan, selective demolition, build formwork and safety barriers, install reinforcing, install wire mesh for life safety in railing panel openings
PROJECT PROFILE details  Windy Gulch, Alcatraz Island

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Project Profile: Hawaii Theater Center

**project** Structural Building Repair  
**objectives** Military-to-Civilian Career Training, Historic Preservation, Community Service  
**team** Active Duty Military Service Members  
**completed** Spring 2019  
**owner** Hawaii Theater Center  
**location** Honolulu, Hawaii

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**Project Highlights**

- **Outcomes:** Exterior & interior structural and aesthetic repairs with historically appropriate finishes  
- **Special Considerations:** Connecting with community organization for historic preservation as part of CPI’s Pearl Harbor National Memorial partnership  
- **Work Items:** Plan and manage multiple simultaneous projects, repair plumbing in damage zone; interior wall; mix on-site & hand-place concrete, finish concrete to historic texture; build wood formwork & shoring; place steel reinforcing; manage safe work in enclosed space; ensure project site safety and accessibility for team, building staff, and visitors
PROJECT PROFILE details  Hawaii Theater Center

Assessing conditions, planning repairs
Partial depth slab repair: concrete removal; reinforcing placement
Partial depth slab repair concrete hand placed
Deteriorated concrete removal at soffit
Soffit repair
Prep for next CPI project, US Marine Memorial, Pearl Harbor Visitor Center

CPI active duty military team discussing project with clients
Team field trip to learn about high-rise building construction
The team
Repaired door surrounds at back of theater

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**Project Profile: Power House, Alcatraz Island**

**Project** Structural Building Repair  
**objectives** Military-to-Civilian & Student Career Training, Historic Preservation, Increase Safe Access  
**team** Military Veterans, College Students  
**completed** Summer 2013  
**owner** National Park Service  
**location** Alcatraz Island, Golden Gate National Recreation Area, San Francisco, California

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**Project Highlights**

- **Outcomes:** Repaired interior & exterior front façade, repaired interior beam & columns
- **Special Considerations:** Historic metal windows/doors originally placed integrally with façade concrete - repair project included their removal/storage during selective demolition then replacement in original configuration with repair concrete material; temporary interior wood wall constructed to protect solar array batteries
- **Work Items:** Vertical and overhead concrete form & pump under pressure (commonly accepted in industry as among the most technically challenging repair methods); finish concrete to historic texture; build wood formwork & shoring; place steel reinforcing; preserve historic metal windows/doors; ensure project site safety & accessibility for team & NPS staff, and safety for visitors
PROJECT PROFILE details  Power House, Alcatraz Island

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Project Profile: Battery Chamberlin

**project** Structural Building Repair  
**objectives** Military-to-Civilian Career Training, Advanced Technology for Historic Preservation  
**team** Active Duty Military Service Members  
**completed** Fall 2018 & Spring 2019  
**owner** National Park Service  
**location** Golden Gate National Recreation Area, San Francisco, California

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**Project Highlights**

- **Outcomes:** Repaired concrete, new drainage system
- **Special Considerations:** Water intrusion due to non-functioning drainage system and vegetation area above caused embedded steel corrosion and concrete deterioration; loss of historic fabric and falling concrete safety hazard in open visitor area; utilized advanced glass fiber composite reinforcing appropriate for conditions and in compliance with historic preservation standards in concrete repair
- **Work Items:** Research historic configuration, assess existing conditions, develop site specific safety plan, selective demolition, erect scaffolding & safety barriers, build formwork, install glass fiber composite reinforcing, mix/place concrete by hand in isolated areas & place concrete with pressure pumping for overall repairs; paint structure to match historic
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