

# *Installation Energy Master Plan*

## *Energy Planning: Key consideration in installation master planning*

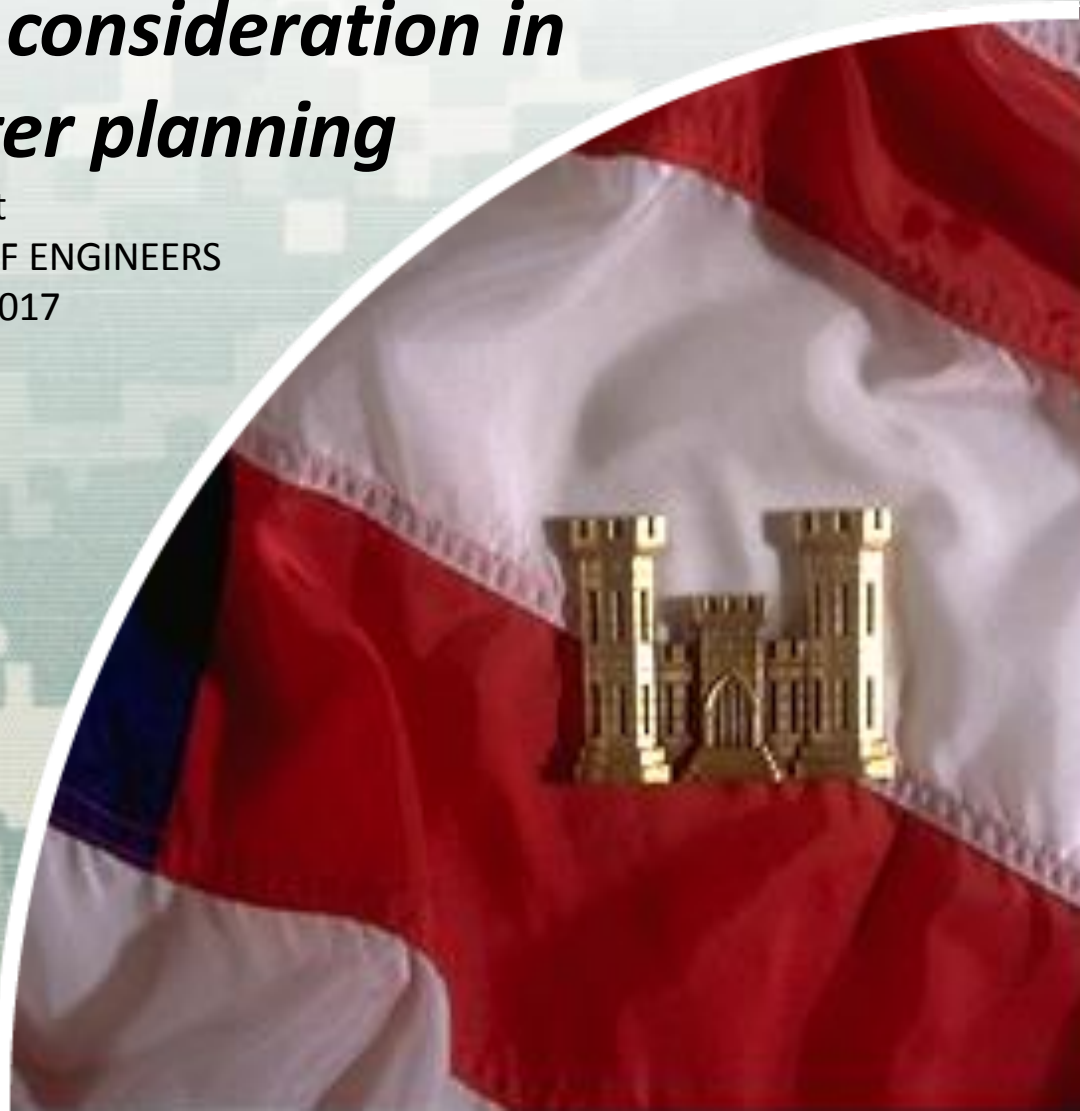
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HQ U.S. ARMY CORPS OF ENGINEERS

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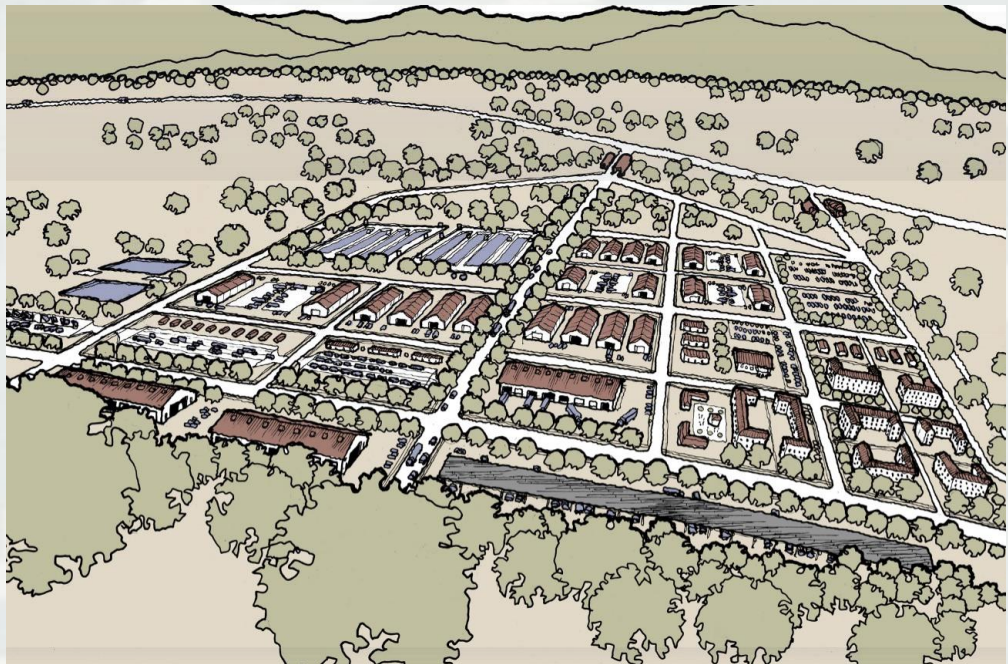


US Army Corps of Engineers  
**BUILDING STRONG®**



# Installation Energy Planning

- Sustainability/Energy Planning
  - Core Strategy of installation Master Planning
- Guiding principles in the planning and development of installations
- Federal, and DoD directives guide comprehensive solutions



# Sustainability/Energy Planning

- National Defense Authorization Act 2013
  - ...ensure all installations must have an installation master plan that addresses environmental planning, sustainable design and development, sustainable range planning, real property planning and transportation planning...
- National Defense Authorization Act 2014
  - ...consider for compact and in-fill development, horizontal and mixed use development, that considers the full life-cycle costs of planning decisions and capacity planning through use of growth zones

Sustainable design and development calls for effective use of ENERGY as well as water, waste And storm water management



# Sustainability/Energy Water Planning Master Planning Guidance DOD/Service

## May 2012 UFC 2-100-01 Installation Master Planning

### ■ Sustainable Planning

- Natural and Cultural Resource Preservation

### ■ Defensible Planning

- Healthy Community Planning
- Area Development Planning

### ■ Network Planning

- Form-Based Planning
- Capacity Planning
- Facility Standardization
- Plan Based Programming

### Sustainable Planning Principles

- Build more compactly
- Focus on infill development
- Use vertical and horizontal mixed use Plan for transit-oriented development
- Design with multi-story Construction

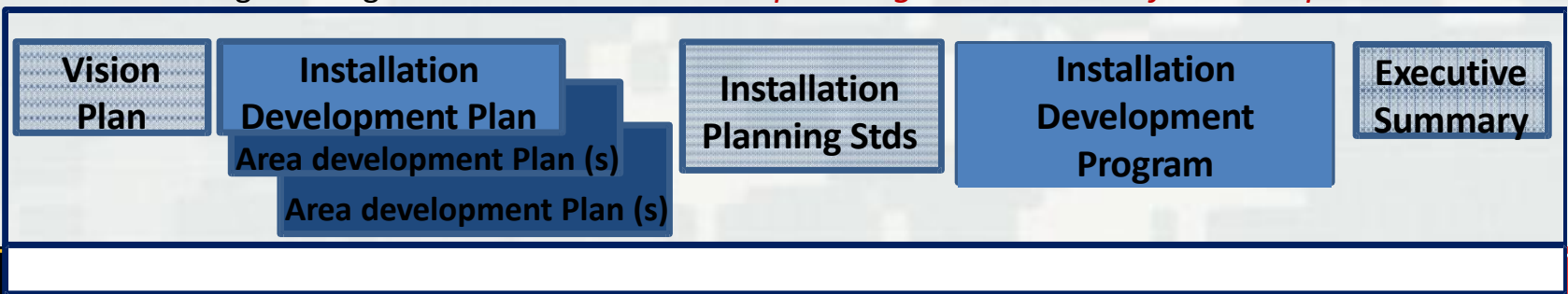
### Support energy-efficiency

What is the Quantifiable Sustainability Effects (energy, Water, waste, storm Water)?

What is the minimum risk to the installation's strategic infrastructure and networked assets that support the critical missions.

Where risk exists, the plan must have contingencies to mitigate or remediate the risk

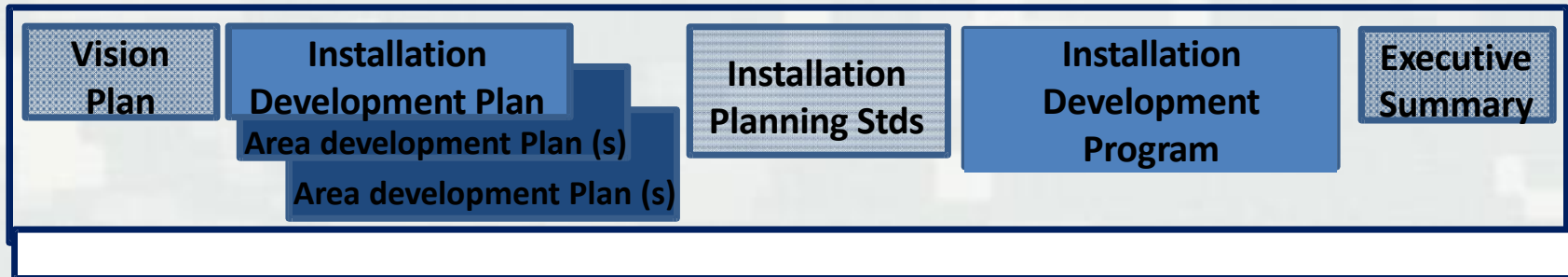
*Imbedded in the planning Process and reflected in products*





# Sustainability/Energy Planning Master Planning Guidance DOD/Service

## May 2012 UFC 2-100-01 Installation Master Planning



Defines overall strategy for development including Energy considerations

Enables district Sustainable development solutions that include compact development, & network planning

Establishes building, site and network standards for the built environment.

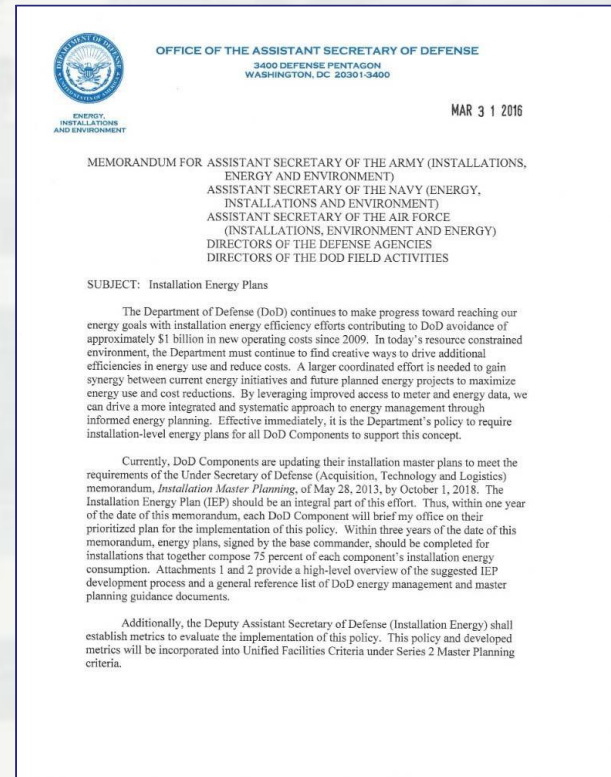
Identifies energy investments that are defined from master planning process.

Summarizes Plan goals and objectives and Implementation actions.



# Installation Energy Plans (IEP's) for DoD Installations

- 31 March 2016, the Office of the Assistant Secretary of Defense Memorandum
- IEPs are to be an integral part of updating installation master plans to meet the requirements of Unified Facilities Criteria UFC 2-100-01, Installation Master Planning.
- Developed in coordination with other installation plans
- Identify NEPA requirements
- Discussions of energy requirements, conservation potential, mitigation measures, and natural or depletable resource
- UFC 2-100-04 Area Development Planning (Pre-Final Development)
- IEP identified as Stand-Alone planning product as the Master Planning Products



# Installation Critical Infrastructure Planning Resiliency and Readiness

- Installations: Hosts critical infrastructure to organize, train, equip, deploy and conduct combat operations by land forces.
- Current Situation: Significant Infrastructure Risks and Increasing Threats

Guidance

Energy Security: Title 10 U.S. Code, Section 2924 (3)A added in NDAA FY 2012

Energy Resilience: DoDI 4180.11 (December 11, 2009, Change 1, March 16, 2016)

Army Directive: 2017-07 (Installation Energy and Water Security Policy, 23 February 2017)

*requirement to secure critical missions by providing necessary energy and water for minimum of 14 days and to sustain all installation missions by assuring access to resource supply, improving infrastructure condition and promoting robust system operations.*



# Planning Initiatives to integrate Energy and Water Planning

- Installation Energy and Water Plans

*Planning* products that identify an installation's plan to assure critical mission infrastructures are secured to meeting established readiness goals.

- Installation Energy Plans

Planning products that identify an installation plan to sustain and efficient and resilient water and energy infrastructure

- Sustainability Component Plans

Planning products that identify a comprehensive plan to address energy, water, waste and storm drainage impacts to assure base-wide resilient and ready installation development today





# Inter-relationship between Installation Master Planning Planning for Resiliency and Readiness



***Installation Energy and Water Plan  
(critical Infrastructure)***



***Sustainability Component Plan***



***Vision  
Plan***

***Installation  
development  
Plans (ADP's)***

***Installation  
Planning Stds***

***Installation  
Development  
Program***

***Exec  
Summary***



## Installation Energy Plans: Take Aways

Comprehensive collaborative planning process ensures energy and water considerations are imbedded in base planning.

Installation Energy and Water Plans focus on critical mission essential installation assets

Installation Energy Plan(s) are extensions of current installation master planning practices, policies and guidance

Use of planning level modeling of impacts wonderful way to understanding impacts of potential decisions.

Master Planning Core-competencies, comprehensiveness and education and training essential

# Sustainability Component Plan Training

**Master Planning Training Courses Developed (DOD Master Planning Institute/PROSPECT)**

**Course 258 Master Planning Energy and Sustainability addresses the SCP/IEP process in accordance with the Master Planning: next offering 13-16 March 2018 New Orleans LA**

**Course 163. Master Planning Sustainability and Resiliency Addresses how to use Modeling tools (NZP tool) to assess different Energy, water, and waste 24-26 April 2018, Champaign IL**

***Contact: Registrar, USACE Learning Center  
(256) 895-7425 / (256) 895-7422 / (256) 895-7437 / (256) 895-8086***

***Tuition Based: Open to All Federal Employees, consultants, state and local employees, universities***