

**National Guard  
Pamphlet 210-20**

**Installations**

**Real Property  
Development  
Planning  
Procedures for  
The Army National  
Guard**

**Departments of the Army and the Air Force  
National Guard Bureau  
Arlington, VA 22202-3231  
5 October 2007**

**UNCLASSIFIED**

# ***SUMMARY of CHANGE***

NG Pamphlet 210-20  
Real Property Development Planning Procedures for The Army National Guard  
dated 5 October 2007

This is a new Army National Guard pamphlet.

- Introduces the concept of master planning in the ARNG (para 1-4).
- Describes the purpose of the Real Property Development Plan (RPDP (para 1-5).
- Identifies the mission of Master Planners in the ARNG (para 1-6).
- Identifies the Master Planning Work Center within the CFMO (para 1-7).
- Identifies responsibilities of various National Guard organizations in master planning (para 2-1 through 2-10).
- Describes the inputs to RPDP (para 3-3).
- Enumerates master planning considerations unique to the ARNG (para 3-4).
- Describes the State level RPDP Components (para 3-5).
- Describes desired outcomes from the planning process (para 3-6).
- Describes the master planning process in the ARNG (para 4-1).
- Provides Management Information Systems Databases Timelines pertinent to facility master planning (para 4-2).
- Describes the Ten Steps to facility master planning in the ARNG (para 4-3).
- Provides a process to develop each component in a State-wide RPDP (para 4-4).
- Describes the purpose, content, and process for developing a Capital Investment Strategy (CIS for ARNG facilities (para 4-5).
- Describes what Training Center Master Plans should include for major ARNG training centers (para 4-6).
- Presents considerations for selecting a project site and size (para 4-8).
- Describes how force protection requirements and considerations are taken into account during facility master planning (para 4-9).
- Summarizes the concept of a Range Complex Master Plan and how those plans are integrated into facility master plans and RPDP (para 4-11).
- Sustainable Development (para 4-12).
- Describes how to assess the effects of new construction and other facility planning decisions on the environment (para 4-13).
- Explains some of the coordination required in effective ARNG facility master planning (para 4-14).
- Presents the concept of State and Installation Planning Boards and how they could fit into an effective facility master planning process (para 4-15).

- Describes types and sources of funding for master planning activities and OMNG projects (para 5-2 through 5-5).
- Describes how to plan for, obtain authorization, and execute MCNG Projects (para 5-6, 5-7).
- Describes the Education and Training desired for a state Master Planner within the ARNG (para 6-1).
- Describes the Education and Training desired for a GIS Specialist with a primary duty to support the state master planner (para 6-2).

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Installations

**Real Property Development Planning Procedures for The Army National Guard**

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By Order of the Secretaries of the Army and the Air Force:

**H STEVEN BLUM**  
Chief, National Guard Bureau

**Official:**

**GEORGE R. BROCK**  
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**History.** This is a new publication.

**Summary.** This pamphlet describes processes for conducting real property development planning.

**Applicability.** This pamphlet applies to all aspects of Army National Guard real property development planning for construction, sustainment, restoration, modernization, and other facilities management operations, no matter the funding source or project initiator.

**Proponent and exception authority.** The proponent of this pamphlet is the Chief of Installations, National Guard Bureau, Army Installations Division, NGB-ARI. The Chief of Installations has the authority to approve exceptions to this pamphlet that are consistent with controlling law and regulation. However, this authority may not be delegated.

**Suggested Improvements.** Users of this pamphlet are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to the National Guard Bureau, Army Installations Division, NGB-ARI, 111 South George Mason Drive, Arlington, VA 22204-1382.

**Distribution:** B.

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## **Chapter 1**

### **General**

#### **1-1. Purpose**

a. This pamphlet describes how to perform the Army National Guard (ARNG) real property development planning process. It assigns responsibilities and describes procedures relating to the development, content, submission, and maintenance of the Real Property Development Plan (RPDP). It explains how the RPDP:

(1) Establishes the foundation for real property management and development.  
(2) Reflects the goals, objectives, plans, and real property requirements of all units and organizations assigned to or supported by the State and its installations.  
(3) Provides the framework for analyzing and justifying real property sustainment (maintenance and repair) resource allocations.

(4) Helps justify real property construction, improvement, and development in accordance with programming guidance, focused investments like Focused Facility Strategy (FFS) or for ranges, the Range and Training Land Strategy (RTLS), and mission support dictates, while supporting power projection and potential mission expansion requirements.

(5) Describes an important management tool to ensure the efficient acquisition, utilization, and disposal of real property assets.

(6) Provides a decision-making tool to identify requirements and alternatives for resolving real property deficiencies and excesses.

(7) Provides a decision-making and management tool for the orderly closure, disposal, and establishment of land use controls for the State and its installations.

(8) Provides the strategic capability for ensuring installation sustainability into the future through direct support of mission readiness and installation integration into regional planning. Through the effective use of the RPDP, future challenges and requirements can be proactively identified and mitigated or solutions programmed well before they become problems, thus ensuring installation sustainability.

b. This pamphlet also describes the components of a complete RPDP directed in NGR 210-20. This pamphlet further describes the outputs resulting from the responsibilities assigned in NGR 210-20.

#### **1-2. References**

Required and related publications are listed in Appendix A. Refer to the Appendix if you are not familiar with a publication cited in the basic text.

#### **1-3. Explanation of Abbreviations and Terms**

Abbreviations and special terms used in this pamphlet are explained in the glossary.

#### **1-4. Introduction to Planning**

The Adjutant General (TAG) must develop business practices to build enduring, sustainable, and continuously improving quality communities. They must establish their installations as valued neighbors and trusted partners with surrounding communities. Installations must be recognized as environmental stewards for future generations, serving as examples of sustainable design and development. Such quality installations can be achieved by effective use of resources that are guided by the near-term and long-range real property investment goals and objectives that reflect the mission requirements of the ARNG.

a. Each State and Territory will document the master planning process in an RPDP. Properly developed, an RPDP will chart a long-term investment strategy for achieving TAG goals for providing excellent installation physical plants and training lands while supporting the Army National Guard's vision for current and future missions.

b. The State real property inventory (RPI) must fully support the mission of the assigned organizations and provides an overall infrastructure to support the force necessary for national security. The TAG's instrument for unifying planning and programming for installation real property management, development, and associated services is the master planning process.

c. The RPDP expresses a long-term commitment to provide high-quality, sustainable, enduring installations. It covers a 25-year planning horizon and provides the road map to executing that commitment. The RPDP describes the TAG's Installation Sustainability Program and Sustainable Range Program venues to identify and accomplish long-term goals that ensure future mission accomplishment with the least impact on the State and its communities. Additionally, the RPDP provides the TAG's strategy for meeting the challenges of operating under changing

paradigms. These paradigms include antiterrorism/force protection (AT/FP); reduced manpower and resources; executing base realignments and transformation of Army units; and minimized base operations support (BOS) costs.

### **1-5. Purpose of the RPDP**

The RPDP is the roadmap to ensure that installation master planning is proactive to long-term mission requirements. A well-prepared RPDP expresses a long-term commitment to provide high quality, sustainable, enduring installations. The purpose of master planning and the RPDP is to:

- a. Establish a vision and future direction for efficiently managing, acquiring, or reducing real property at ARNG installations in order to support the current mission, transformation, and management processes.
- b. Establish mission-oriented installations, which provide flexibility to react effectively to contingencies.
- c. Provide soldiers, their families, and other users of installations with high quality, safe facilities.
- d. Establish a framework for State-wide installation management to review allocation of limited resources that affect, or are affected by, the use of real property assets.
- e. Determine real property deficiencies and identify priorities and potential solutions.
- f. Coordinate master planning activities with local community development.
- g. Identify sustainability issues, activities, and actions that may have significant environmental impacts.
- h. Ensure that the Environmental Condition of Property (ECOP) is identified, characterized, and documented.
- i. Promote consistency in resource programming.
- j. Compare existing real property to projected real property needs and other developmental or operational activities.
- k. Ensure that installations are capable of supporting assigned missions, as well as providing locations or land areas to accommodate future expansion or reconfiguration.

### **1-6. Mission of Master Planners**

To produce a long-range, integrated planning document to implement the TAG's goals and objectives for development and operation of the State's real property. Accomplishing this mission will ensure continued mission performance at ARNG installations. Therefore the RPDP serves as a decision-making tool that identifies requirements and alternatives for resolving real property deficiencies and excesses to ensure continued mission performance at ARNG installations. Effective real property development planning:

- a. Identifies facility quantity shortfalls and excesses and quality deficits.
- b. Develops alternatives (use of other existing, local facilities, rehabilitation, addition/alteration or new construction) to support current and future missions.
- c. Develops alternative uses for underutilized facilities to support current and future missions.
- d. Establishes a framework for prioritizing projects and managing limited State and Federal resources.
- e. Supports the Military Construction National Guard (MCNG) Appropriation and Sustainment/Restoration/Modernization (SRM) by comparing existing real property assets to requirements using the Tabulation of Existing and Required Facilities (TAB) and prioritizing requirements for quantity and quality facility asset improvements.
- f. Identifies activities and actions that may have environmental impacts early in the project development phase.
- g. Determines and understands the ECOP early in the project development phase.

### **1-7. Master Planning Work Center within the CFMO**

Planning and programming is one of six major work centers within the CFMO. The other five work centers are: Design and Project Management, Facilities Management, Contract Management, Resource Management, and Information Technology and Administrative Services. The planning and programming work center interacts with all five other major work centers and performs the planning function to determine what, when, and where to build MCNG projects and OMNG-funded SRM projects. The master planner works closely with resource and facilities management in the development of the capital investment strategy (CIS). The State master planner must coordinate with all other work centers to ensure a concerted and unified approach to building and sustaining real property. For example, the master planner must coordinate with real estate and environmental to ensure that the new construction site will be available and is suitable from an environmental viewpoint. A draft position description for the master planner is at Appendix N.

## Chapter 2 Master Planning Responsibilities

### 2-1. National Guard Bureau, Army Installations Division (NGB-ARI)

- a. Determines requirements, timelines and resources for RPDPs, and assigns responsibilities for their preparation.
- b. Ensures that RPDPs are prepared in compliance with prescribed policies and guidance and validates their contents.
- c. Ensures that adequate master planning and Geographic Information System (GIS) resources are available to support State-level planning efforts and monitors how the States utilize such resources to prepare and maintain RPDPs.
- d. Validates RPDPs and Long-Range Construction Plans (LRCPs) submitted by the States.
- e. Ensures that real property acquisition, construction, and disposal projects of States are consistent with and included in the RPDP.
- f. Establishes facility criteria for all ARNG requirements in appropriate National Guard Bureau (NGB) publications and Army databases in coordination with NGB facility proponents, such as the Army Training Division (NGB-ART), the Army Logistics Division (NGB-ARL), and the Army Aviation and Safety Division (NGB-AVS).
- g. Reviews RPLANS requirements edits.
- h. Reviews DD Forms 1390/1391 for MCNG projects prior to their placement on the FYDP.
- i. Assists States when necessary during the development of their RPDPs, to include providing technical support, information, and guidance.
- j. Provides training to CFMO staff on functional processes and procedures for execution of responsibilities described in NGR 210-20 and suggested in this pamphlet.
- k. Reviews the RPDP program annually and provides a report to the Assistant Chief of Staff for Installation Management (ACSIM).
  - l. In coordination with other divisions (e.g., Logistics, Training, and Environmental Programs), establishes, implements, and maintains a GIS in compliance with the Army Enterprise Architecture, including hardware and software, down to the installation level, that will support RPDP management as well as comprehensive regional planning capabilities and HQDA strategic planning.
  - m. Assists the Chief, National Guard Bureau (CNGB), to establish National Guard real property priorities and policies to support the commanders of the unified combatant commands, the services, and the States/Territories.

### 2-2. The Adjutant General

- a. Provides a clear and coherent vision for the preparation and update of the State's RPDP.
- b. Ensures open staff communication so that the Force Structure, Operations and Training, Surface and Air Maintenance staffs, and Director of Information Management, among others, provide sufficient lead time to the CFMO so that he/she may properly plan to support changes in equipment, doctrine, and mission.
- c. Ensures that adequate funds and staffing are provided and committed to prepare and maintain the RPDP.
- d. Establishes a real property planning element to assist in facility SRM and MCNG project development.
- e. Approves the State's RPDP and ensures that the RPDP is submitted to the NGB for validation.
- f. Approves the LRCP for the State.
- g. Ensures that the Range Complex Management Plan (RCMP) is coordinated with the RPDP and master planning efforts and that it is incorporated into the RPDP. Establishes and implements procedures to ensure that ranges and training lands are incorporated into the master planning process and provides a method by which the RCMP requirements are addressed in the LRCP.
  - h. Provides an associate member to the real property planning boards (RPPBs) of installations managed by other services and other components at which the ARNG maintains a licensed enclave.
  - i. Ensures that the State staff participates in a State Installation Planning Board that provides appropriate senior staff participation in facility planning.

### 2-3. United States Property and Fiscal Officer (USPFO)

- a. Serves as the Real Property Accountable Officer (RPAO) for Federal real property that has been licensed to the States and Territories for the ARNG.
- b. Accounts for and is responsible for all Federal real property assigned to the Army National Guard in that State on both a quantitative and monetary basis.

c. Requests and controls all Federal funds and their expenditure within the State for National Guard purposes. By law, always retains accountability and responsibility for Federal funds and property, even when authority is delegated to the Assistant USPFO for Real Property (usually Construction and Facilities Management Officer (CFMO)). Receives and accounts for all funds and property of the United States in the possession of the National Guard of a specified State or Territory, and ensures that Federal funds are obligated and expended in conformance with applicable statutes and regulations.

d. Authenticates requirements, certifies as to their authority, and authorizes the expenditure of Federal funds for equipment, supplies, services, and payroll.

e. Reports on Federal funds and property as directed by the CNGB and the Secretary of the Army.

f. Provides DD Forms 1354 to the RPAO of the host installation for any facility constructed on property that is permitted or licensed from one of the services when the ARNG does not have real property accountability for that site.

#### **2-4. Construction and Facilities Management Officer (CFMO)**

a. Ensures that real property master planning for the State is accomplished in accordance with published ARNG regulations and policies. Develops and manages comprehensive annual and long range plans covering all MCNG real property investment, and SRM initiatives.

b. Maintains an accurate RPI upon which to base the RPDP.

c. Ensures that the RPDP reflects the needs of the total State population identified in the Army Stationing and Installation Plan (ASIP).

d. Determines which installations/sites require an installation/site master plan.

e. Develops the TAG approved RPDP and submits it to NGB-ARI for validation.

f. Maintains the TAB and LRCP. Updates the entire RPDP as appropriate.

g. Ensures that all SRM, military construction, real property acquisition and disposal projects, regardless of proponent or fund source, are consistent with the RPDP.

h. Ensures that RPDP and master planning efforts are coordinated with tenant real property assets and proposed projects.

i. Ensures that environmental personnel review master planning documentation and that actions are adequately documented.

j. Serves as the Assistant USPFO for Real Property.

#### **2-5. Real Property Master Planning Advisory Committee (RPMPAC)**

a. Advises Chief, NGB-ARI, and the Facilities Engineering Advisory Council (FEAC) on real property master planning matters and concerns.

b. Provides the Chief, NGB-ARI, and the FEAC information regarding the effects of RPDP regulations and requirements on the State ARNG organizations.

c. Recommends to the Chief, NGB-ARI, areas of potential master planning improvements.

d. Serve as the principal ARNG advisory committee for the States' real property planners.

e. Recommends guidance for maintaining the RPDP. Develops standards and methods for the development and use of RPDP systems, data, plans, and documents.

f. Provides RPDP expertise for coordination with the Department of the Army and agencies outside the ARNG.

g. Recommends ARNG-specific changes to the Real Property Planning and Analysis System (RPLANS).

#### **2-6. State Master Planner**

The master planner gathers and analyzes data to plan for facilities to accommodate the mission of units within the State. In addition, the master planning section should be responsible to:

a. Plan for GIS systems related to installations management.

b. Review military construction design/programming/proposed development documents to ensure that requests are consistent with the State's RPDP.

c. Review other documents, particularly National Environmental Policy Act (NEPA), ECOP, and stationing request documents, for facility implications, to include environmental restrictions on and considerations for real property activities.

d. Integrate the process and flow of data from the Planning Resources for Infrastructure Development and Evaluation (PRIDE) to RPLANS to Installations Status Report (ISR).

e. Verify data in Army standard systems (e.g., ASIP, PRIDE).

f. Request resources to support master planning and GIS.

- g. Recommend how to integrate GIS into planning efforts.
- h. Coordinate with NGB Staff for stationing actions.
- i. Coordinate with NGB staff for force modernization/Army transformation proposals.
- j. Coordinate internally within the State concerning real estate and real property matters.
- k. Serve on the Active Component Support to Reserve Component Training Committee and assist its work.
- l. Develop and monitor master planning support contracts.
- m. Ensure that environmental considerations are incorporated into master planning.
- n. Integrate selected staffing actions and ensure overall coordination of planning efforts.
- o. Attend RPPB meetings for Active Component installations on which there is an ARNG interest.
- p. Act as liaison with local community planners so they are kept apprised of installation and site needs and plans for expansion and development.

### **2-7. GIS Specialist in Master Planning**

If none are authorized, the master planner performs these duties.

- a. Ensures that GIS data meets applicable data standards.
- b. Provides map layers and analysis to assist master planning decisions.
- c. Maintain real property related data layers, to include site boundaries, parcels and easements.
- d. Coordinates GIS data collection and acquisition with environmental and training GIS specialists.
- e. Ensures GIS software maintenance and support.

### **2-8. Database Specialist in Master Planning**

If none is authorized, the master planner performs these duties.

- a. Manages CMFO databases to ensure compatibility for GIS display.
- b. Obtains and maintains a basic knowledge of GIS as it pertains to ARNG real property.
- c. Coordinates data management and analysis with all staff activities.
- d. Becomes familiar with other databases to obtain useful information for ARNG real property.

### **2-9. Training Center Commander**

- a. Establishes priorities for accomplishment of training center missions.
- b. Provides information for the CFMO to incorporate into a training center master plan.
- c. Establishes requirements for facilities to support the training center mission.
- d. Plans for and utilizes facilities in concert with the TAG's vision for the State.
- e. Develops RCMP for the training center.

### **2-10. Training Center Engineer/Manager**

- a. Ensures that real property master planning for the training center is accomplished in accordance with published Army and ARNG regulations and policies. Develops and manages comprehensive annual and long range plans covering all real property investment and SRM initiatives and ensures that they are coordinated with the State RPDP.
- b. Ensures an accurate RPI for the training center upon which to base the State RPDP.
- c. Ensures that the training center development plan reflects the needs of the total training population that utilizes the site.
- d. Ensures that the facilities development plan includes the proposed actions and projects of the Sustainable Range Program (SRP) approved by the Army G-3.
- e. Maintains the TAB and list of projects for the training center. At some training centers, the training center engineer does not actually maintain the RPLANS TAB but provides necessary input to the CFMO personnel at Joint Force Headquarters (JFHQ), who perform those tasks for the training center.
- f. Ensures that SRM, MCNG, real property acquisition and disposal projects, regardless of proponent or fund source, are consistent with the State RPDP.
- g. Ensures that environmental personnel review the training center development plan and ensures that existing conditions such as the ECOP and potential impacts upon the physical environment are adequately considered and addressed.

### Chapter 3 The Real Property Development Plan (RPDP) – Products

#### 3-1. General

- a. The RPDP is a plan based on a set of assumptions, inputs and metrics that is used to enable optimal development of ARNG real property within the State, Territory, or District of Columbia.
- b. The RPDP articulates the TAG's plan for the orderly management and development of the real property assets of the State, including land, buildings and infrastructure.
- c. The RPDP documents the real property development planning process described in Chapter 4 by stating what is important to the TAG, establishing metrics for rating their relative importance, and providing objective data to prioritize projects for development.
- d. The RPDP shall be the basis to support acquisition, construction, management, and disposal of real property.
- e. The RPDP shall serve as a framework for assisting in the allocation of available SRM resources and for supporting requested MCNG projects.
- f. The RPDP shall identify the Adjutant General's goals and objectives for development and operation of the State and its supported installations, and shall identify the major work to be done to real property to ensure continued mission performance and to eliminate facility shortages.

#### 3-2. Policy from NGR 210-20

- a. Each State shall prepare and keep current an RPDP.
- b. The RPDP is composed of many elements, four of which the States shall submit to NGB-ARI: TAG Narrative, TAB, LRCP, and site plans for programmed projects. Additional elements will be based on other requirements (e.g., Federal, State, and local codes and regulations/requirements including environmental plans and the Range and Training Land Program (RTLTP)) and government and industry master planning best practices.
- c. The RPDP incorporates concepts and information from many programs and sources to plan for adequate real property support to meet all assigned or programmed missions for the State. Mission requirements, assets, and proposed projects of tenants on ARNG installations/sites shall be included in the RPDP. Non-ARNG tenants shall provide contributory information or plans to ensure that their real property needs are planned for.
- d. The RPDP shall justify all Federally supported programming actions for the lease, purchase, renewal, disposal, conversion, or construction of real property. The RPDP shall justify major SRM projects and guide the allocation of resources to all other such projects.
- e. The RPDP shall provide for compatibility and versatility in land and facility uses. It indicates those areas with potential for expansion and those areas that could be eliminated.
- f. The RPDP shall adhere to AR 405-70, chapter 2, to maximize use of existing adequate facilities within a given locality and to dispose of unneeded facilities. No new construction will be proposed in the RPDP when adequate, local, existing, underutilized facilities are available. The use of such facilities shall not degrade operational efficiency, retention or readiness.

#### 3-3. Inputs to RPDP

The RPDP is based on a variety of standard inputs and other contributing information. The standard inputs to the RPDP are the ASIP, RPI, Installation Status Report (ISR), RCMP, GIS data analysis, State Surface Maintenance Plan, and tenants' requirements. Description and use of these inputs are explained below. Contributing information are existing plans and documents that portray existing conditions and potential future development, which can be important planning inputs. These documents address a wide spectrum of issues and may present the overall quality of life of the State's installations. Submission of contributory information to the master planner for consideration in the development of the RPDP is the responsibility of the information proponent. Appendix B, Table B-1 lists typical contributory information that will be reviewed for real property implications when developing the RPDP. Typical installation proponents are also shown. This table is not all-inclusive and may vary among State installations.

- a. ASIP. The ASIP is a program owned by the Force Integration Readiness Officer (FIRO) but executed by the CFMO.

(1) ASIP establishes the types and the authorized peacetime strength of units stationed in the State, Territory or the District of Columbia, and identifies the transient training population, including students, requiring support. The transient population reflects units that train at a given location and students who go to school on the installation.

The total facility requirement is initially calculated based on this ASIP input. AR 5-18 provides information regarding the ASIP.

(2) There are generally two POCs within the State for the information contained in ASIP. One is the CFMO who is generally responsible for validating the annual update of the ASIP data. The other POC is the FIRO within the G-3 Office. ASIP information may be updated and maintained by either the CFMO Staff or the FIRO depending upon the internal procedures established within each State. It is very important that the Master Planner coordinate with these individuals to make sure they have accurate Force Structure information.

(3) The RPDP must plan for the real property facilities needed to support these permanently stationed units and transient units/individuals. There is no change required to ASIP, a peacetime accounting system, to account for forces deployed out of the State.

b. RPI. The ARNG RPI (contained in PRIDE) describes which facilities exist and their location and facility category code. RPLANS uses the real property assets identified in the RPI to compare with calculated facility requirements. The CFMO is responsible for classifying real property and assigning responsibility for inputting real property information into PRIDE, from which it is fed to HQDA.

c. ISR. ISR-Infrastructure identifies the condition (quality) of each reportable facility and its major components. ISR also displays the quantity rating for facility type and could provide specific project requirements as well as input to prioritizing use of new construction and repair resources. The ISR evaluations of building components are valuable inputs to assist in prioritizing projects within the State. These evaluations also help determine the magnitude of the building repair requirement, which can assist in the identification of which projects are MCNG and which are O&M funded.

d. RCMP. The RCMP is comprised of ARNG range and training land requirements for inclusion in the Future Year Defense Program (FYDP) and approved projects. These projects are arranged in priority sequence by fiscal year during which construction is required for initial operation by the user. The State RCMP contains all approved range and training land projects for the State that appear in the FYDP. Detailed information regarding the RCMP and its relationship to master planning is included in Appendix C.

e. GIS. GIS is a tool for the collection, display and analysis of spatial data.

(1) CFMOs will implement GIS according to ACSIM policy (DAIM-MD), which provides guidance regarding Enterprise GIS, GIS data and meta-data standards, coordinate system datum, data sharing, and data quality standards. To reduce redundant efforts, CFMOs will actively partner with other functional areas (e.g., environmental, installation and training area management (ITAM), logistics) to create a multi-purpose and multi-user GIS capability. With the exception of sensitive or classified information, data and systems developed by one staff agency will be openly shared across functional areas and organizational lines within the ARNG.

(2) GIS can link tabular and graphic data across program areas. This provides master planners with an integrated and comprehensive picture of installation land use, facility condition, and constraints to development. The TAG may provide guidance to focus initial GIS efforts for data collection based on the type of information he would like to see first. Data collection for GIS might start with aerial photos, property surveys, and legal description.

(3) AR 210-20, para 1-4i(9), requires a link between RPI and GIS data. This means that all required tabular data for real property items shall be maintained in the RPI database of record, PRIDE. Graphical representations of the same real property items shall be maintained in a GIS. To ensure data accuracy and to avoid data duplication, logical links shall be maintained between the two data sources. These two data sources are to be maintained by the States and shall remain open to the States to allow access to RPI data through the GIS and visa versa.

(4) GIS is a useful tool for many facets of Master Planning to include the following:

(a) Site location - GIS data can be used to analyze, evaluate and prioritize new facility locations. The ability to correctly analyze, evaluate and prioritize is directly dependant on the quality of the GIS data.

(b) Site land use planning - GIS can be used to create site plans that depict installation facilities, land uses, areas for future development, and encroachments.

(c) Inventory of real property - The process of building and maintaining a GIS can facilitate the accurate update of the RPI.

f. State Maintenance Plan. This document is the plan for the maintenance of all non-aviation assets in the State. The plan determines where each unit's vehicles and equipment will be maintained. The plan also specifies locations for existing and proposed surface maintenance facilities and allocates authorized positions for maintenance personnel at each facility. This plan materially impacts the scope of any proposed surface maintenance project. Number and types of vehicles impact parking requirements and numbers of maintenance personnel determine the size of surface of maintenance facilities. See NG Pam 415-12.

g. Tenant requirements. Tenant organizations may be from other service components, other services, Federal, State and local governments. The RPDP must take tenant requirements into account when planning infrastructure and determining how to satisfy the entire ARNG real estate and real property requirements.

h. Other inputs for the RPDP may include the following:

(1) Program Objective Memorandum (POM), which conveys expected levels of funding for SRM and MCNG projects in the FYDP.

(2) Focused Facilities Strategy, which identifies those categories of facilities to be brought up to modern standards within designated timeframes.

(3) Real estate Instruments and easements. A good knowledge of the legal boundaries will assist you to make sure that new facilities are not planned for construction in areas on which you do not have a legal right to build. You should consider termination of leases, because leasing normally is considered a temporary solution for a facilities need. These considerations may affect decisions to build a permanent structure where lease termination may introduce additional requirements for facilities.

(4) Historical SRM expenditures. History of funding previously spent on a facility may be a useful tool as you determine how much funding you will spend on a facility in the future. Tracking SRM expenditures by facility can ensure that planned replacement and utilization is commensurate with historical expenditures. (This assumes you have been following the prescribed sustainment program for the facility. Otherwise, your expenditures will likely be higher.)

(5) Controlled Humidity Preservation (CHP) Program. This is a NGB directed program to provide controlled humidity storage for unit equipment. The master planner may be required to determine optimal siting for these types of buildings.

(6) Equipment Fielding Plans and Aviation Modernization. These are generally Army-directed programs which signify additional storage, and (possibly) maintenance requirements. These fielding plans may have facility requirements associated with them. Familiarity with fielding plans will provide valuable information to the master planning process.

(7) Communications Plans (Infrastructure Upgrade) This information generally comes from the Deputy Chief of Staff for Information Management at each State.

(8) Force Structure Strategic Plans. These plans are the road map to the future force structure of the State. Familiarity with these plans will keep the master planner informed as to future force structure changes and the resulting facility changes.

(9) Anti-terrorism Force Protection Plans. These plans identify infrastructure improvements to protect classified information, equipment, facilities, and personnel. These plans are generally developed as outlined in para 3-4a below.

### 3-4. Planning Considerations

a. Force protection. Force protection requirements are shown in Unified Facilities Criteria (UFC) 4-010-1 and 4-010-2 and may impact where and how you can site facilities. You must consider how to meet force protection requirements when you are building new structures on land you currently own. Force protection requirements for planned new buildings are particularly important if you are considering buying new land. The following affect your specific force protection requirements: vulnerability assessment, generation of design basis threat, determination of compliance with minimum detail standards, and alternative force protection measures.

b. Environmental requirements. NEPA documentation pertaining to a particular site may have mitigating measures that may limit the functionality of a future facility. The master planner should check with their environmental section to ascertain what environmental documentation is in existence at each existing location to be master planned and involve them immediately in the decision making process for acquiring new property. In fact, the master planning cycle is similar to the environmental assessment cycle. The equivalent steps (displayed as environmental/planning) are: purpose/goals and objectives; alternatives/analysis; issues/mitigations; preferred alternative/decision; monitoring/feedback. There are many other environmental requirements that must be taken account of in the planning of facilities and master planning. See AR 200-1.

c. Land use controls. Land use controls (LUC) are any type of physical, legal, or administrative mechanism that restricts the use of, or limits access to, real property including land controlled by the ARNG to prevent or reduce risks to human health, safety and the environment. Land use controls are put into effect to allow some limited usages for real property that cannot be safely used by all people for any usage. LUC applies to both surplus real property planned for transfer out of ARNG control and for land in continued usage. Land use controls are essential to reutilize property that is contaminated, possibly making it unsuitable for digging, but safe for mounted maneuver training. Land use controls may also be used to restrict usage of one parcel of land while another parcel is being



cleaned up. LUCs can be used to mitigate either risks associated with exposure to contamination during or residual to cleanup, instead of eliminating those risks by removing or treating the contaminated media to 'unrestricted use' levels. LUCs may be imposed either during or subsequent to an environmental response conducted under the Comprehensive Environmental Response, Compensation, and Liabilities Act (CERCLA) or corrective action under the Resource Conservation and Recovery Act (RCRA). The National Historic Preservation Act may impose similar restrictions for cultural resources. You may use land use controls to designate no build or limited build areas. Regardless of type and purpose of LUC, the RPDP should track all LUCs imposed on ARNG land throughout the State. Examples of different types of LUC are:

- (1) Physical mechanisms. These encompass a variety of engineered remedies to contain or reduce contamination and physical barriers intended to limit access to property, such as fences or signs.
- (2) Legal mechanisms. These include laws and ordinances, as well as restrictive covenants, equitable servitudes, and deed notices.
- (3) Administrative mechanisms. These include notices, construction permitting, or land use management systems that may be used to ensure compliance with use restrictions.

### 3-5. State Level RPDP Components

The required components of the RPDP that must be updated annually and validated by NGB are the TAG Narrative, TAB, LRCP, and site plans (for projects programmed in the FYDP). The description of each component is explained below. Chapter 4 explains how to use the key planning inputs from para 3-3 above and to develop each component described in this paragraph. The respective appendices (Appendices D through G) display a sample for each component of a State level RPDP. See Table 4.4 for when and how to submit each of the required components.

#### a. TAG Narrative.

- (1) Purpose. To provide guidance and project priorities to the CFMO and master planner for planning MCNG projects and managing SRM resource expenditures.
- (2) Description. The TAG Narrative provides a written description of the TAG's intent and vision for providing facilities to accomplish the State's missions and to support current and future force structure. The TAG Narrative provides the master planner a vision and the general guidance necessary to develop the RPDP. This guidance may include a narrative description of the TAG's vision, priorities, facility goals and objectives, force structure changes, and overall strategy for providing facilities for the State or Territory. The TAG shall sign the narrative annually prior to approving the LRCP. Each State shall forward an electronic image of the signed TAG narrative and NGB-ARI will place the signed narratives on the NGB-ARI Guard Knowledge Online (GKO) site. The TAG Narrative fulfills the requirement of AR 210-20 for a master planning digest. (See Appendix D for an example.)

(3) The TAG narrative explains how the State plans to provide the necessary facilities in appropriate locations, in the proper size, configuration and condition to support Army transformation, force structure, and ARNG training and recruiting objectives. The narrative should describe a plan to reduce facility deficits and excesses simultaneously while restraining facility costs, both Federal and State shares. Facility costs include sustainment, restoration and modernization of facilities, utilities, and custodial services. Some planning tools to accomplish this master planning challenge are the identification of facility requirements through analysis of RPLANS TAB listing shortages and excesses, both current and projected; facility conversions, new construction, facility disposals, including demolition, sale and transfer; and use of sustainable designs.

#### b. TAB

- (1) Purpose. To portray assets, allowances, requirements, shortages and excesses for selected Facility Category Groups (FCG).
- (2) Description. The TAB is a tabular report that displays information on facility assets, allowances, requirements, excesses, and shortfalls. Facility allowances are addressed in the Army Criteria Tracking System (ACTS), AR 405-70, NGR 415-10 and NG PAM 415-12. Facility requirements are based on these allowances and State and local considerations, including exceptions to policy. (See Appendix E for an example.)

(a) The TAB is a tabulation of existing and required facilities by FCG in a spreadsheet format. It can be summarized for the entire State or by site. Each FCG is a row on the TAB spreadsheet, and for each row there are columns showing quantities of or requirement for facilities in that FCG. The TAB displays existing and required facilities and computes the amount of shortage and excess FCG. The TAB provides a summary of which types of facilities to acquire or dispose to meet the State's quantity requirements. This information should help influence the priorities for new construction.

(b) The existing facilities are automatically input from the real property inventory system. States must edit the allowances presented in the TAB to ensure the TAB reflects properly the criteria authorized in NG Pam 415-12.

Edits must be justified in terms of criteria in NG Pam 415-12 or as documented exceptions to criteria approved by NGB as a separate action. The RPLANS TAB with requirements validated by NGB is the NGB approved TAB. See RPLANS Edit Handbook at Appendix H on how to justify RPLANS requirements edits so that NGB can validate the TAB.

c. LRCP

(1) Purpose. To provide a prioritized list of MCNG projects within the State.

(2) Description. Within the real property planning process the LRCP is the prioritizing document for military construction. The RPDP is used to develop the LRCP, which represents the construction projects funded by MCNG to be accomplished within the State to accommodate mission performance. The State LRCP represents the State CIS for improving quality and quantity of facilities within a State. (See Appendix F for an example.)

(a) The LRCP should include about 25 years of projects to ensure an orderly development. There may be situations when a shorter timeframe for planning consideration may be appropriate based on near term ARNG MCNG levels.

(b) NGB-ARI builds the Infrastructure Requirements Program (IRP) from priority projects in all the 54 LRCPs in accordance with NGB Memorandum 415-15. This is the prioritized list of MCNG projects for the ARNG beyond the FYDP. This list is used to populate the last years of the new FYDP during the POM process.

d. Site Plans for projects in the FYDP.

(1) Purpose. To ensure proper siting of programmed projects given existing facilities and future development potential of the site.

(2) Description. Site plans describe the affected area of the project to show the nature and approximate affect of building outlines, roadways, paved areas, fencing, items to be demolished and existing rough ground contours (as necessary). Site plans are submitted in accordance with NGR 415-5 or upon request by NGB-ARI. (See Appendix G for an example.)

(a) NGR 415-5, para 4-4, lists 11 minimum specifications for project sites that States shall meet or exceed as much as possible when choosing a site. Site plans should also contain a layout of all existing and proposed facilities and possible restrictions (i.e., natural and cultural resources, explosive safety arcs, surface danger zones).

(b) Site plan drawings shall be in digital format (i.e., geospatial data in either GIS or geo-referenced Computer-Aided-Design (CAD) file formats that are GIS compatible).

(c) The site plan is required as part of the DD Forms 1390/1391 in the programming phase of the project.

(d) Site plans are also required as part of the submission of preliminary design of a project, in accordance with NG Pam 415-5, para 11-3. However, these are in far greater detail than those required as part of an RPDP submission.

e. Site Plans for projects not in the FYDP.

(1) Purpose. To plan for siting of future projects given existing facilities and future development potential of the site.

(2) Description. Same as para 3-5d above. In this case site plans are not required at NGB-ARI until projects become part of the FYDP. However they are useful additions to the RPDP.

### 3-6. Desired outcomes

Performing the real property master planning process creates a coordinated and well thought out plan that will allow all States to achieve the CNGB goal of executing all MCNG projects in the year of appropriation. In addition, it will provide a plan that can be realistically implemented to achieve a desirable military community in which to train, live and serve that will meet current mission and future operational requirements. A well thought out RPDP should also result in:

- a. Timely and accurate real property planning information for installation management.
- b. Appropriate antiterrorism measures and application of force protection principles, criteria, and considerations.
- c. Sustainable Design and Development. (Refer to NG Pam 415-5)
- d. Sound infrastructure planning
- e. Support and scoping for all programs involving real property acquisition, design, and construction; real property management; real property sustainment (maintenance and repair); and disposal of land and facilities.
- f. Identification, including through the ECOP, of natural, cultural, and environmental resources and restrictions these programs or activities may impose on future development.
- g. Supporting MCNG, SRM, and other funded projects.
- h. Framework for prioritizing MCNG projects and SRM expenditures.
- i. An accurate audit trail of real property development planning decisions.
- j. Information for real property planning decision-making.

- k. Efficient land use and optimal facility utilization.
- l. Effective management and disposal of real property.

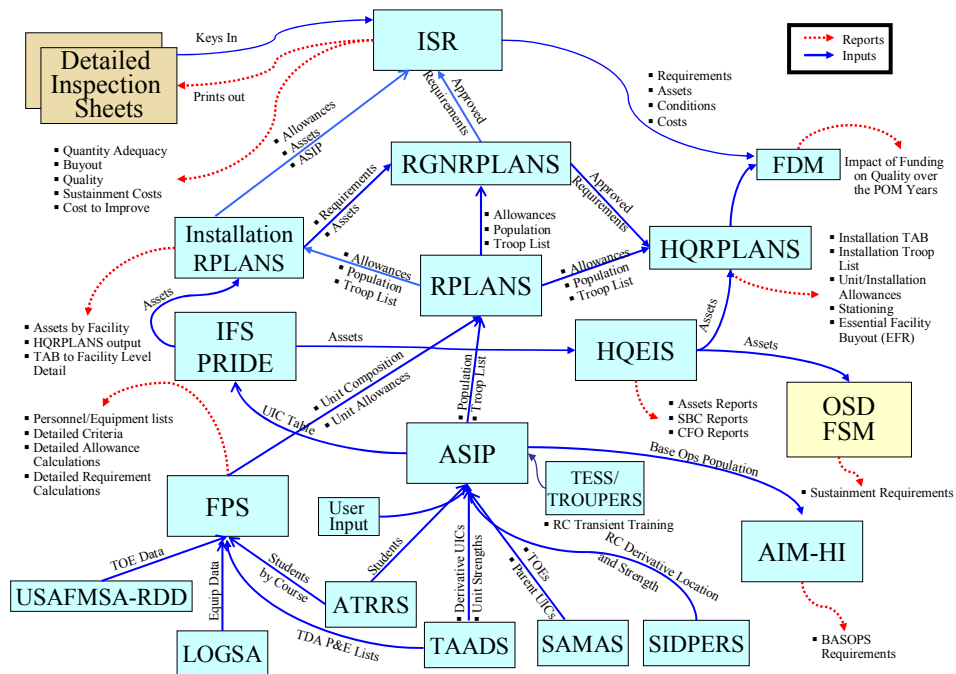
**Chapter 4**  
**The Real Property Development Planning Process**

**4-1. Planning processes**

The RPD process involves collecting, mapping, and evaluating planning information; integrating mission requirements; performing a set of analyses; and conducting extensive coordination, staff reviews, and deliberations. The real property development planning process works within the construct of the State organization. Therefore it is important to understand the State organization and what products are available to the master planner from each element in the organization. Although the ARNG organization in each State is unique, each JFHQ has a similar organizational structure and CFMO components.

**4-2. Management Information Systems Databases Timelines**

Figure 4.1 depicts the relationships among the various inputs and outputs to management information systems and their databases that each State should use to manage its facilities. Typically the State master planner is responsible for planning documents or results which require integrating the different databases. Figure 4.2 displays a timeline for key actions integrating ASIP, RPLANS, and ISR Submissions.



**Figure 4.1 Database Relationship**

**4-3. Ten Steps to Planning.** Depending on the size and complexity of the site or project, the level of planning and documentation will vary. GIS is one of the tools to do the ten planning steps, because it allows you to bring in spatial data and display it visually. For MCNG projects, the use of a programming charette will be beneficial once a project makes the FYDP. The steps for a charette are similar at a project level to what the RPD planning steps do on a State level. More information on programming charettes is contained in Appendix I.

- a. The ten steps or procedures in the real property development planning process listed in NGR 210-20 are:
  - (1) Receive a clear and coherent vision from the TAG. This vision should address, for example,

philosophies of stationing, anticipated missions, desired facility and training center capabilities, and relationships with local communities. Your Adjutant General should provide you long-term planning goals and objectives that answer the following questions:

- (a) What types of facilities are most important?
- (b) What missions are top priority to accommodate?
- (c) Where is it most important to have additional facilities?
- (d) What types of SRM and MCNG projects are most important?
- (e) When should facilities be disposed of?

(2) Collect data. The master planner should utilize information from the systems in Figure 4.1 and the offices in Figure 4.2 to provide information critical to the RPDP. For example, identify the assigned troop units in ASIP, and full time personnel requirements from Support Personnel Manning System (SPMS). It is absolutely imperative to involve the customers throughout the entire RPDP development process.

RESPONSIBLE PARTY	EVENT	DATE
ACSIM	Issue RPLANS winter update based on : <ul style="list-style-type: none"> <li>• ASIP from previous year</li> <li>• List of INSNOs from 30 September RPI</li> <li>• Assets from September-October RPI assets update into RPLANS</li> </ul>	January
State ISR Manager	Evaluate one third of facilities for ISR Infrastructure	January - May
State ISR Manager	Submit ISR Infrastructure to NGB	NLT May 30
State Real Property and RPLANS Managers	Quarterly update real property assets from PRIDE to RPLANS	Prior to each quarterly top load
ACSIM	Quarterly top load ISR Infrastructure data	January, April, July, October
NGB-ARI	Send RPI quarterly update to DA	March 31, June 30, September 30, December 31
State ASIP Coordinator	Update ASIP – window 1	April 1 – June 20
State RPLANS Manager	Continue to do RPLANS edits	Continuous
ACSIM	Issue RPLANS summer update based on : <ul style="list-style-type: none"> <li>• ASIP from previous year</li> <li>• List of INSNOs from 31 March RPI</li> <li>• Assets from March-April RPI assets update into RPLANS</li> </ul>	July
State ASIP Coordinator	Update ASIP – window 2	August 1-15

**Figure 4.2 Management Information Systems Databases Timelines**

(3) Apply criteria to the force structure to determine facility and other real property allowances. The ASIP provides stationing information for units within each State. NG Pam 415-12 contains the facility allowances. Typically force structure changes frequently. Although not as volatile, facility criteria also changes periodically. The key is to determine the requirements based on validated force structure and the most current facility allowance information. Until a project is identified (funded) in the FYDP, it is relatively easy to change the project scope to meet this changing force structure and criteria. Once a project is identified (funded) in the FYDP, changes to a project amount must come from other projects in the FYDP.

(4) Identify real property assets available to support the mission. The list of ARNG assets for each State is contained in the RPI (i.e., PRIDE)

(5) Determine real property deficiencies, excesses, and non-building needs. (Examples of non-building needs are utilities, ranges and training lands, and other support structures.)

(6) Define and evaluate alternatives to satisfy deficiencies, eliminate excesses, and satisfy non-building needs. There may be other facilities that could potentially accommodate missions of the ARNG.

(7) Consider developmental constraints and restrictions, including environmental considerations, land use controls or restrictions, force protection requirements, and need for sustainable designs. (See NGR 415-5, para 4-4, for site requirements and support.)

(8) Integrate results from environmental, safety, force protection and training processes and plans. (All current RTLP Development Plans are required appendices to the RPDP.)

(9) Prioritize recommended solutions to satisfy real property requirements. These proposed solutions generally comprise the LRCP or a prioritized list of SRM projects. However, some of the solutions may be accommodated by real property acquisition and restationing.

(10) Develop DD Forms 1390/1391 or NGB Forms 420 as required for projects. See NGR 415-5, chapter 5. Best business practices have shown that DD Form 1391 scoping sessions held prior to consideration for inclusion of projects in the FYDP are beneficial to the State in producing accurate project scopes and cost estimates.. NGB has supported funding for these scoping sessions for the TAG’s top priority project(s). Develop Real Estate Action Plans for federally supported land acquisition approval in accordance with NGR 405-80 and the Real Estate Manual.

b. AR 210-20 describes the master planning for installations process as seven steps. These seven steps represent an equivalent planning process to the NGR 210-20 ten steps process. Figure 4.3 portrays the equivalency between the two processes.

AR 210-20 – Army Installations – 7 Steps	NGR 210-20 – ARNG States – 10 Steps
1. Commander’s Vision	1. Receive vision from TAG
2. Data collection and analyses	2. Identify troop units, etc. 3. Apply criteria 4. Identify real property assets
3. Goals and objectives	5. Determine real property deficiencies Note. Once deficiencies are identified, develop goals and objectives to eliminate those deficiencies.
4. Alternatives	6. Define and evaluate alternatives 7. Consider developmental constraints
5. Preferred plan	8. Integrate results 9. Prioritize recommended solutions
6. Implementation	10. Develop DD Forms 1390/1391 and NG Forms 420
7. Monitoring and adjusting	Implied, not stated as a distinct step

**Figure 4-3 Crosswalk of Planning Process Steps**

**4-4. Development of State-wide RPDP Components**

This paragraph describes how to use the master planning process to develop the following components of the RPDP: TAG Narrative, TAB, LRCP, and site plans for programmed projects. The following process steps are addressed for each component: data collection and research, analysis, generation, coordination, outcome, approval, and submittal to NGB. Samples of each of these components are contained in Appendices D through G.

a. TAG Narrative. It is important to determine with the CFMO at what point the TAG needs to be involved in this process.

(1) Data collection and research (References, Where to look, Who to go to, Contributory Information. Go to RPI, RPLANS, ASIP, ISR, computer maintenance management system history of facility maintenance, equipment (Director of Logistics) stationing plan, and environmental documentation. Focus on reference data that is immediately available to you for the initial goal setting. If available the FIRO 5-year stationing plan would also be an important data source.

(2) Analysis (Comparison, Standards). In the analysis step use the RPLANS TAB to compare existing facilities against current and future requirements. Use the ISR to gauge condition and the maintenance history to see where SRM has been done in recent years.

(3) Generation (Writing, Format, Length). In the initial draft you should provide current condition of facilities and capability for future usage. The draft should identify shortages and write objectives to fix those shortages. The narrative does not have to specify individual projects, but doing so is permissible. For maximum credibility, the top priority MCNG projects in the LRCP should be consistent with the priorities outlined in the TAG Narrative. The final document should be written as a narrative (one or two pages).

(4) Coordination (With whom, Proponents and Customers). You should coordinate the draft TAG narrative with key members of the JFHQ (FIRO, Surface Maintenance Officer, Aviation Officer, J Staff, etc), USPFO, Troop Command, and the senior MTOE organizations.

(5) Outcome (Recommendation, Format, Tertiary effects, Uses). Expected outcome would be a final version of the TAG narrative, ready for signature.

(6) Approval (Who, What, When, Where). The TAG approves the narrative once a year at the same time the LRCP is approved. If there are significant force development changes in midyear, you may have to revise the TAG narrative out of cycle. Prior to approval, the TAG legal advisor would coordinate with the State Attorney General, who reviews all major policy statements from State officials.

(7) Submittal to NGB (When, How). Submit the signed TAG narrative as an Adobe \*.pdf file attached to an email to Chief, NGB-ARI, with an information copy to the NGB-ARI Master Planner.

b. TAB. The State level TAB is a standard report from RPLANS.

(1) Data collection and research (References, Where to look, Who to go to, Contributory Information). The data collection step should start with updating the RPI and ASIP by the responsible proponent. The next step would be to upload the most current RPI into RPLANS to ensure that the TAB is based on up-to-date inventory.

(2) Analysis (Comparison, Standards). Start by running the coarse screen and examining overage and shortage FCGs. Look for closely related FCGs where one is over and the other is short to see if some of the requirements of the overage could be transferred to the shortage FCG. Ensure that all approved exceptions to criteria are documented by requirements edits in RPLANS. Also ensure that any small readiness centers (strength less than 55) edits (requirements equal assets) have been accomplished in RPLANS. Try to better utilize any FCGs that have overages. Plan to provide facilities for any FCGs that have shortages.

(3) Generation (Writing, Format, Length). The TAB is generated as a standard report in RPLANS. You must update the RPI into RPLANS at least once every six months.

(4) Coordination (With whom, Proponents, and Customers). You should coordinate the TAB with the real property specialist for any overage FCGs. Also coordinate the TAB with the FIRO, G-3 and Recruiting and Retention Manager to determine projected changes in force structure or restationing.

(5) Outcome (Recommendation, Format, Tertiary Effects, Uses). Use the TAB to compare the existing facilities against current and projected force restationing. Also use the TAB to justify any new construction project.

(6) Approval (Who, What, When, Where). The CFMO validates the TAB. NGB-ARI-RE approves any changes to the TAB that are made as RPLANS requirements edits.

(7) Submittal to NGB (When, How). The master planner maintains the TAB on a continuous basis in RPLANS and keeps a current copy of the TAB in the RPDP. NGB submits a snapshot of the TAB twice a year in May and November to ACSIM.

c. LRCP. The LRCP serves as the capital investment strategy for the State's MCNG program.

(1) Data collection and research (References, Where to look, Who to go to, Contributory Information). Develop MCNG projects based on shortage FCGs, age and condition of existing facilities, and new force structure and restationing plans.

(2) Analysis (Comparison, Standards). The analysis step allows the State to begin prioritization of the projects. You should consider the TAG's priorities articulated in the TAG narrative and the five rating criteria in NGR 415-5. These are the projects that can begin to address shortages identified in the TAB, although simply being short does not necessarily make them the highest priority for new construction.

(3) Generation (Writing, Format, Length). The master planner generates MCNG projects in PRIDE project management module. The master planner makes a preliminary prioritization for the top projects by working with the JFHQ staff and the State Facilities and Stationing Committee.

(4) Coordination (With whom, Proponents and Customers). Coordination of the LRCP is a continuous process. It involves the same organizations that helped during the generation of the TAB. Other coordinating entities consist of the members of the Joint Services Reserve Component Facilities Board (JSRCFB) and the State Facilities Planning Board. The LRCP is presented to the JSRCFB to validate projects as unilateral construction or as a potential joint project with another reserve component.

(5) Outcome (Recommendation, Format, Tertiary Effects, Uses). The LRCP is a prioritized list of MCNG projects that is used as a roadmap in the execution of the MCNG program for the State. It provides planning structure, prioritization, and a timeline for the execution of actions associated with projects in this program. Actions can include programming charettes, land acquisition, NEPA document generation, and preparation of programming documents. States update MCNG project data in PRIDE throughout the year.

(6) Approval (Who, What, When, Where) The TAG approves the LRCP for the State.

(7) Submittal to NGB (When, How). The TAG/State sends a memorandum or e-mail to NGB-ARI indicating the approval of the LRCP as indicated in PRIDE by the published due date.

d. Site Plans for FYDP Projects. Site plans are where the Master Planner can most impact the MCNG project. Site plans are sometimes created as a product of a programming charettes for MCNG projects. When this occurs, these generated site plans can fulfill the project site plan master planning requirement.

(1) Data collection and research (References, Where to look, Who to go to, Contributory Information). Project information to be collected consists of existing conditions (topography, utilities, traffic/accessibility, soils, hydrology), environmental, proponent, community, threat, force structure (ASIP), and equipment stationing.

(2) Analysis (Comparison, Standards). The analysis process compares input to create projects that best accommodate the requirements. It will determine if the selected site is appropriate for the project to be constructed. Finally, it will highlight elements that need to be considered throughout the design and construction of the project.

(a) NGR 415-5 specifies that all facility acquisition or construction projects will be located (sited) in accordance with an approved RPDP. The proper siting of individual projects has a direct bearing on cost, sustainability, maintainability, force protection and safety, environmental impacts, operational efficiency, and constructability of projects. NGR 415-5, para 4-5a, specifies the criteria for land to be used for MCNG projects.

(b) Special project siting requirements. Certain types of projects may require additional siting review and coordination. These special projects include those involving ammunition, explosives, ranges and training land, environmental cleanup, antiterrorism and force protection, communication facilities, and aviation facilities. Consult NGR 415-5 for requirements for these types of projects.

(3) Generation (Writing, Format, Length). There are many tools that can be used in the generation of a site plan. There are equally as many methodologies. The salient point is that the site plan must include the elements that define the project scope in accordance with NGR 415-5 and NG Pam 415-12. The elements are:

(a) Property boundaries, streets, and the general area surrounding the site, to include streams, rivers, lakes, wetlands, flood plains, etc.

(b) Proposed facility location and area reserved for construction, expansion of buildings, parking, etc.

(c) Original grades within the construction area, either by spot elevations or by contour.

(d) Existing and proposed walks, roads, parking areas, and fencing.

(e) Location of existing and proposed utility lines for water, natural gas, sanitary sewer, storm drainage, telephone, and electricity. Also, the location of any water wells, liquid propane gas tanks, and septic systems.

(f) Proposed location of wash racks, fuel storage, and pollution control devices.

(g) Location of any known historic or archeological sites on the property.

(h) Presence and location of State and Federally threatened, endangered or rare species.

(4) Coordination (With whom, Proponents and Customers). Site plan generation should be coordinated with users, proponent(s), AFTP proponent, adjacent property owners, governing authorities, source data providers, and all other affected entities.

(5) Outcome (Recommendation, Format, Tertiary Effects, Uses). The culmination of the site plan and the information contained therein are used in conjunction with the planning and initial/conceptual design in the development of the MCNG project.

(6) Approval (Who, What, When, Where). The TAG ultimately approves all site plans.

(7) Submittal to NGB. (When, How). The State submits site plans for FYDP projects with the DD Forms 1390/1 for projects within the first three years of the FYDP as an output resulting from the programming charette. See Appendix I.

e. RPDP Enhancements (Optional). There are numerous enhancements to the RPDP that can make it much more useful than simply the required basics. Two of these are an evaluation of site development potential and GIS data collection plan.

(1) Evaluation of Development Potential. Because the RPDP is utilized as the information source to make decisions concerning the future development of a site, collection of basic information needs to evaluate potential for further development for each site is useful. For example, the usable size of land area is necessary in deciding whether the site can accommodate more units. The buildable area is that area without restrictions that could impact development or construction.

(2) GIS. GIS is a useful tool, because master planners can take data elements and pictorially present them in a way that facilitates planning decisions. Some of the most important data elements would be real property inventory locations, property boundary data (surveys, aerial photographs), property size (acreage), ownership type, site and building plans, environmental conditions, and hard horizontal and vertical infrastructure, (e.g., existing roads, sidewalks, building structures). This data can be used to develop information regarding potential development and constraints. See Appendix J.

#### 4-5. Capital Investment Strategy (CIS)

The CIS is a plan to get from the current real property inventory and condition to some future desired status for real property. The CIS is the TAG's strategy to reach the desired facilities condition and identifies alternatives considered, courses of action, intermediate steps, projects (both in the military construction and operations and maintenance appropriations), and funding required to get there. The CIS should result in a set of prioritized projects and is documented both as a narrative and a projects list. The CIS is a recommended attachment to the RPDP.

a. The CIS describes a general plan for satisfying installation real property and environmental stewardship requirements based on the TAB, ASIP, analyses of the condition and mission suitability of facilities and supporting infrastructure, and environmental aspects of mission performance. It describes "get well and stay well" plans for facility and infrastructure revitalization and shortfalls. It also relates how excess facilities will be managed and disposed of. The plan evaluates the economic feasibility and environmental impacts of alternatives in sufficient detail to enable the feasibility, efficiency, and soundness of all the options for satisfying installation facilities requirements to be verified. The CIS also provides planning guidance for interim solutions on how essential real property requirements will be satisfied until the CIS is fully implemented. It describes permanent comprehensive solutions, as well as short-term actions necessary to correct deficiencies and meet real property requirements in a method that assures infrastructure reliability and contributes to sustainable development. The CIS links the real property inadequacies and shortfalls described in the TAG Narrative and TAB to the projects listed in the LRCP. Also, the CIS will reflect the correction of shortfalls identified in the ISR and the implementation of the facility development requirements identified by the RPDP.

b. The CIS comprises two parts, long term (5-25 years) and short term (less than 5 years). The LRCP serves as the project list for the long term element of the CIS for MCNG projects in a State. MCNG projects in the FYDP and the prioritized SRM project list and State-funded projects can serve as the project list for the short term element of the CIS. The CIS includes all aspects of MCNG and SRM and State investments. The CIS should address: sustainment of facilities, improvement of facility conditions, restoration and modernization of facilities, and buy out of critical facility shortfalls. With both parts, the CIS describes permanent comprehensive solutions, as well as short-term actions necessary to correct deficiencies and meet real property requirements in a method that assures infrastructure reliability and contributes to sustainable development. The CIS addresses environmental stewardship requirements considering facility conditions and shortfalls and environmental aspects of mission requirements. The CIS should reflect the correction of shortfalls identified in the ISR and/or other facility condition metrics (such as provided by a computerized maintenance management system (CMMS)). The CIS links the real property inadequacies and shortfalls identified in the TAB and LRCP to the projects required to address those shortfalls identified in the ISR and CMMS.

c. The options or alternatives to address real property shortfalls run the spectrum from build new construction where none existed, replace by new construction, add to or alter existing buildings, renovate, and repair. Analysis to determine the optimal option should consider location, demographics, existing conditions, lot size, and other factors.

d. The CIS should include a prioritization list based on criteria. According to the new Federal Real Property Council guidelines, data must be recorded to indicate the facility condition index and annual operations costs for every Federal facility. This data can help the master planner develop priorities, especially if similar data is available for State owned facilities. Suggested criteria include:

- (1) Protecting the integrity of the existing facilities
- (2) Quality of Life
- (3) Utility and Mechanical System Infrastructure Support
- (4) Health and safety and code compliance (e.g., Americans with Disabilities Act)
- (5) Environment
- (6) Proponent priorities
- (7) Anti-Terrorism/Force Protection

e. The five elements of the CIS are:

(1) Executive summary. This relates preferred alternatives for critical real property requirements to installation mission accomplishment and the TAG's vision, planning goals, and objectives. It summarizes the requirements analyses and forms the TAG's investment strategy. The analysis of critical real property requirements, by FCG or major environmental stewardship program, briefly identifies the current situation (quantity, type construction, allowance criteria, and physical/functional condition) and deficiencies (quantity and adequacy based on TAB, ISR-Infrastructure, ASIP, and regulatory standards). It reflects resource constraints, but it is not time constrained. It includes a short overview of the results of the environmental analysis.



(2) Consideration of alternatives. This is a narrative that addresses structural or nonstructural alternatives for eliminating deficiencies or excesses and briefly explains the rationale for selection or rejection. Nonstructural alternative examples include conversion of facilities or reassignment of activities to improve utilization; leasing; and rotation and scheduling of training areas to enhance land recovery.

(3) Action plan. This is a narrative that lists the actions to be followed to carry out the selected alternatives and the schedule for their implementation.

(4) Supporting graphics. A graphic presentation of the CIS would include site maps and drawings.

(5) Supporting documentation. The following documentation supports the CIS:

(a) The TAB. This is a report of facility allowances, requirements, excesses, and shortfalls. Criteria for determining facility allowances are addressed in NG Pam 415-12.

(b) Environmental analysis. This includes a statement indicating CIS actions have been assessed for environmental impacts and reference where the assessment(s) can be found. The CIS should also contain a statement that an environmental analysis of the CIS projects complies with the requirements in AR 200-2, para 5-3. All environmental program requirements are also identified in the Status Tool for Environmental Programs (STEP) report. (See AR 200-1.)

(c) Additional graphics. Include site development plans where available.

(d) Real property disposal actions. This is a facilities reduction plan consisting of a list of buildings to be disposed of, with square footage noted. Land disposal actions should be listed separately. Facility and land disposal action approval authority will be in accordance with AR 405-90 (for Federally owned property) and established delegation authority for State owned property.

#### **4-6. Training Center Master Plans (TCMP)**

The TCMP should follow as closely as possible the requirements of NGR 210-20. The IDG is a recommended component of the TCMP. See NGR 415-10 and NGR 415-5.

a. Definition. A TCMP is a comprehensive planning document focused on a single site or group of sites, usually with a common training or maintenance mission. The TCMP is based on assigned missions and higher headquarters guidance. It is the road map to ensure proactive real property master planning to accommodate long-term mission requirements. The State should use the ten-step planning process outlined in para 4-3 above to generate the TCMP. The products developed as a result of this process are described below. The TAG determines which ARNG installations/sites need a master plan. There is no requirement to submit completed training center master plans to NGB for review except by NGB request. In the developing the TCMP, consider and incorporate State and local laws, policies, and regulations as appropriate.

b. Purpose. The TCMP forms the basis for both long-range and short-range infrastructure decisions, and incorporates other plans for the training center. NGB-ART uses the criteria contained in NGR 5-3 to determine the Training Center classification. The primary considerations for the development of the TCMP are training center classification (e.g., Maneuver Training Center (MTC), Collective Training Center (CTC)), habitual training relationships (i.e., which units train where), and training center mission (e.g., maintenance training, range qualification, maneuver, and mobilization).

c. Description. The TCMP is generally separated into two distinct land use categories: ranges/training land and cantonment. The ranges and training land category comprises the training ranges, maneuver areas, training areas, and any infrastructure within this footprint. The cantonment area comprises soldier support facilities and training center support facilities. Master Planning elements for a training center generally include the elements in AR 210-20, Chapter 3. See Appendix O to crosswalk requirements with terminology in this pamphlet.

d. Coordination. The master planner coordinates outside the State Military Department with government agencies and local communities. It is imperative that the master planner coordinate with all stakeholders when generating the TCMP: JFHQ, tenants, habitual using units, and the surrounding communities. Where there is combined local community and ARNG interest in coordinated, comprehensive land use planning, or where encroachment is or has the potential of becoming a serious impediment to the future viability of the training center, the master planner must coordinate the TCMP with local communities in order to:

(1) Minimize negative impacts of ARNG operations, training and facility development on surrounding communities while still sustaining short- and long-term training and operational capabilities.

(2) Determine future growth patterns and development of the surrounding communities.

(3) Establish mutually compatible land uses and zoning to ensure future installation viability for training and operations.

(4) Determine the need for a Joint Land Use Study (JLUS).

(5) Reduce impacts of encroachment on the short- and long-term training and operational capabilities of the training center.

(6) Installations with an Installation Environmental Noise Management Plan, Air Installation Compatibility Use Zone (AICUZ), or Range and Training Land Development Plan studies shall share the unclassified study results with State and local governments and other potentially affected organizations/parties. As an exception, States shall not release potential land acquisition actions until the Secretary of Defense has granted an except to OSD land acquisition moratorium. Nor shall the State release GIS data layers that identify specific locations of such items as cultural sites and endangered species.

e. Land use change requests.

(1) Description. A land-use change is a reconfiguration or relocation of an approved installation land-use zone, or the imposition of certain land use changes on an existing land-use zone. A proposed land use change can force a land use change request when it entails a material impact on the property's utility. Such a change requires an amendment to the TCMP. The TCMP environmental analysis may also require adjusting.

(2) Approvals. A land-use change request will be processed in the same manner as a site approval request and with the same documentation. Final approval authority resides with the State JFHQ. Review and approval by special approving authorities for certain types of projects will be obtained in advance of the request to change the installation TCMP land use. No delegation for approval of land use changes below the JFHQ is authorized.

f. JLUS. The purpose of the JLUS program is to work with surrounding communities to develop compatible land use plans and thus minimize the effects of development on installation missions. The JLUS provides a framework for installations and their adjacent communities to promote compatible community development in the vicinity of a military installation. A successful JLUS nomination indicates that the surrounding jurisdiction(s) may need DoD assistance to identify and discourage incompatible land use activity near ARNG installations. It also should indicate the willingness of the installation to participate in the JLUS process and work with surrounding communities to develop supportive approaches to future development. Primary candidates for a JLUS should be those training sites currently experiencing encroachment or have the potential for encroachment issues impacting training. The JLUS program is one of the Army's most effective means of maintaining operational viability of our training installations. Expected benefits of the JLUS process are States working proactively with communities to preserve existing training areas from encroachment by civilian development through proper land use planning in the civilian communities and achieving mutually agreeable solutions with communities which are currently in close proximity to military training areas. A JLUS request should include the following information:

- (1) Site code, name, and State
- (2) POC name, email, telephone and address
- (3) Description of the encroachment or potential encroachment problem
- (4) A statement demonstrating TAG commitment to support the JLUS effort with the OSD Office of

Economic Adjustment (OEA).

(5) A statement that a current Installation Environmental Noise Implementation Plan (formerly known as Installation Compatibility Use Zone (ICUZ)) has been completed with the date of completion or is in process with the date of anticipated completion. If neither, then provide a statement why such a plan is not needed.

(6) A statement that the affected local jurisdiction(s) will likely participate in the JLUS and the basis for this statement/judgment.

g. Army Compatible Use Buffer (ACUB).

(1) Description.

(a) When it is in the Army's best interest to protect installation operational areas from internal and external encroachment and JLUS is not sufficient or the JLUS process recommends an ACUB, the training center commander should consider implementing one. 10 USC §2684a authorizes DoD to enter into agreements with certain eligible entities for the entity to acquire property interests to limit encroachment and other constraints on military training, testing, and operations.

(b) An ACUB is a formal agreement between the National Guard Bureau and a State or local government or a private conservation organization to limit encroachment on lands adjacent or ecologically related to the installation. The agreement would allow the National Guard Bureau to provide O&M funds to the partner group who in turn would purchase title or conservation easements on tracts of lands that surround the installation to "buffer" the installation from internal and external encroachments (noise, dust, light pollution, natural and cultural resource management). There must be a willing seller and if the Army's partner is a private organization, the organization must have a specific purpose of land or natural resource conservation.

(c) The purpose of buffers is to protect accessibility, capacity and capability of land within the installation boundary – not to acquire more land. The agreement that implements an ACUB should limit the use or development

of property near military bases, and/or to preserve habitat to relieve environmental restrictions on military operations. ACUB has proven to be an effective tool for avoiding or limiting encroachment and providing long-term sustainability of Army installations without requiring the Army to acquire or own additional land.

(2) All ACUB proposals must have a training driver where implementing an ACUB would protect current and future training capabilities at the installation.

(3) In order to determine whether or not an ACUB will be an effective management tool for your installation's encroachment strategy, consider the following questions:

- (a) What are the current or potential encroachment issues?
  - (b) What missions are impacted by encroachment?
  - (c) Is it too late to create a buffer?
  - (d) What are the surrounding land ownerships?
  - (e) What are the surrounding parcel sizes?
  - (f) What are surrounding land uses?
  - (g) Is the land affordable?
  - (h) What has been accomplished to date to address encroachment?
  - (i) What benefits could be realized in an ACUB?
  - (j) Has senior leadership endorsed this encroachment initiative?
  - (k) What are the natural and cultural resources impacted?
  - (l) How will an ACUB enable accomplishment of training objectives?
  - (m) Are the owners willing to sell or encumber their properties within the ACUB?
  - (n) Is there an eligible partner to purchase properties or conservation easements within the ACUB?
- (4) The ACUB Process.

(a) ACUB, as authorized by 10 U.S.C. Section 2684a as amended, are defined as formal agreements between Army and eligible entities for acquisition by the entities of land or an interest in land and/or water rights from willing sellers. Formal agreements may provide for limiting encroachment through acquisition of development rights, conservation easements, and other means in accordance with applicable laws.

(b) The ACSIM has overall management responsibility of the ACUB program. Army G-3 establishes mission based priorities and long-term goals for the ACUB program that is overseen by the ACUB Core Group, a sub-group of the Army Range Sustainment Integration Council (ARSIC) Working Group. Installations forward proposals to NGB for coordination and validation and NGB will forward validated proposals to Office of the Director of Environmental Programs (ODEP) for coordination with the ARSIC.

(c) The NGB cannot enter into binding agreements with any eligible entities until the proposal has been coordinated and validated by the ACUB Core Group, ARSIC Working Group, ARSIC Co-Chairs and the ACSIM has approved the proposal. All approved proposals stipulate that the installations must provide an annual report and biennial review of the program at the installation.

(d) The NGB provides oversight on all ARNG ACUB programs and it part of the ACUB Core Group. The authority to enter into a cooperative agreement in support of an ACUB program at an installation was only delegated down to the NGB, Principal Assistant Responsible for Contracting (PARC). The cooperative agreement is developed by the partner, State ARNG, and NGB after the ACUB proposal is approved by the ACSIM and funding is available for obligation. The Cooperative Agreement obligates the funding and outlines how those funds can be utilized by the partner. The ACUB program is initiated at the installation level with the State ARNG making an evaluation on the current and foreseeable future encroachment issues or pressures on the installation and whether or not a compatible use buffer would be feasible or appropriate.

(e) The State ARNG develops an ACUB proposal following the guidance provided by the Army and submits to NGB for a full staff review on the on the draft and final proposal. The State ARNG will then submit a final ACUB proposal to NGB for staffing at HQDA with a transmittal memorandum from the installation commander. The submittal of the final ACUB proposal to ODEP begins the process of obtaining the ACSIM approval on the ACUB. The review includes the ACUB Core Group, ARSIC Sub-Working Group, and ARSIC Co-Chairs, who then recommend approval/disapproval to the ACSIM. Once the ACSIM approves the proposal, the State ARNG and NGB can begin the process of requesting funding for the project via the Army for OSD Readiness and Environmental Protection Initiative (REPI) funding. The funds are obligated upon the partner and the NGB PARC's signatures on the cooperative agreement.

(f) The typical timeline from the State ARNG submission of the draft ACUB proposal through ACSIM approval and REPI funding is approximately one year. State ARNG should submit draft ACUB proposals during the first quarter of the fiscal year if they wish to receive funds for the subsequent fiscal year. The NGB must begin

submitting REPI requests in the second quarter to the Army and Army must submit the finalized requests to OSD in the third quarter.

(g) The ACUB program is an unfunded but validated requirement through the POM. Until the program is funded, the only available funds for NGB are from the OSD REPI program.

#### **4-7. Installation Design Guide (IDG)**

The IDG is a recommended tool for States. This IDG can be a statewide, regional, or local document. Its purpose is to promote visual order and enhance the natural and man-made environments through consistent architectural themes and standards. It provides specific guidance on exterior and interior design parameters for restoration, modernization and new construction projects. Planners must take this guidance into account when planning new facilities. Cooperating with the architectural themes of the local community helps the ARNG be a good neighbor. NGB Design Guides (DG) 415-1 through 415-5 may be useful in the development of this IDG. In addition, there are Army Corps of Engineers web sites that may also be very useful in developing an IDG. If a State is going to construct an ARNG facility on an Active Component installation, the State must coordinate with the installation to ensure that the proposed project is in compliance with the IDG as well as the siting permissions. In accordance with AR 210-20, each Federally owned training center should have and follow an IDG approved by TAG.

#### **4-8. Project Siting/Land Sizing**

a. Land Sizing. Look at the available land in terms of buildable “parcels” rather than vast open spaces. Buildable areas are those with no limitations for development. As developable land is limited within the study area and the installation, establishing smaller parcel sizes and/or basing parcel sizes on natural breaks can maximize land capabilities and result in increased development efficiencies.

(1) Lot Orientation. Whenever possible, orient parking lots to minimize the impacts of force protection setbacks. You may accomplish this by locating parking areas within designated roadway setbacks, thus reducing the cumulative setback distance. Similarly, depending upon the size and location of available developable land, maximize parking lot frontage along roadways and minimize depth. Also, to maximize parking spaces in an industrial area, parking aisles should run parallel to the longest side of the parking lot.

(2) Parking Consolidation. To maximize space utilization, consolidate parking areas within the study area to serve multiple users/buildings. This will help reduce the impacts of force protection setbacks applied to all parking areas, making the land available for other uses.

(3) Parking/Walking Distance. Parking design must take into account the total employee population (military and civilian). To encourage walking within the study area, the maximum distance from parking to door should not exceed 1,000 feet. Increased pedestrian traffic will reduce the volume of short-distance vehicular traffic and ultimately increase safety throughout the study area.

(4) Structural Hardening. In some cases, you will have to locate buildings within the prescribed standoff distance. When close proximity is inevitable, consider structural hardening to mitigate security concerns.

(5) Circulation. Circulation encompasses three main topics: installation access gates, vehicular circulation, and pedestrian circulation.

b. Site Plans. A site plan addresses a specific type of facility or a complex of facilities. Development of site plans is not limited to FYDP MCNG project sites. The State may elect to do site plans for any property they wish. The requirements for a site plan for a FYDP project are described in para 3-5 above. However, non-FYDP site plans are not mandatory, and as such including site plans for non-FYDP projects is only a recommendation. Site plans depict main and supporting facilities for sites that will accommodate readiness centers, surface maintenance facilities, aviation maintenance facilities, USPFO complexes, or a combination of these facilities. A site plan has many of the same components as a TCMP but is much reduced in scope. A site plan provides a means to optimally accommodate facilities and improvements on a site. In addition, site plans can be used to determine the relative suitability of sites within the State for future development, training, accessibility, or other planning objectives. You develop site plans by utilizing the ten planning steps included in para 4-3a above. You should use the following information to develop the plans:

- (1) TAB
- (2) ISR-Infrastructure
- (3) PRIDE RPI
- (4) SRM expenditures
- (5) Site acreage
- (6) Site boundaries and geo-reference points
- (7) Surrounding land use, including zoning and prevailing architecture

- (8) Real estate instrument
  - (9) Facility age
  - (10) Hydrological and geological surveys (if available)
  - (11) Elevations and contours (if available)
  - (12) Constraints
  - (13) Historical status
  - (14) Other elements of information.
- c. General siting considerations. NGR 415-5, Chapter 4, lists the minimum specifications for project sites.
- (1) Readiness center site should contain at least 15 acres in non-congested areas and 10 acres in cities and other congested areas. AT/FP requirements may require more than 15 acres depending on site conditions and recent experience has shown that in order to meet AT/FP requirements without restriction a minimum of 20 acres is required for a typical readiness center site.
  - (2) For other than readiness center projects contain adequate area to support mission requirements.
  - (3) Front on at least one public street or road, while ensuring adequate standoff to meet minimum AT/FP requirements.
  - (4) Have adequate access roads from nearby population centers and from public highway networks. Preferably should be served by public transportation.
  - (5) Be free from low-lying areas, steep slopes, landfills, faults, and other prospective nuisances.
  - (6) Have uniformly contoured terrain that is either level or only slightly sloping (less than 4 percent).
  - (7) Have soil at the frost line depth for the locality with a bearing capacity of approximately 2,000 pounds per square foot on natural, undisturbed earth.
  - (8) Have accessible all public utilities necessary and required for successful operation of the facilities being constructed.
  - (9) Be protected by local land use regulations so as to permit the construction and full use of a facility and to prohibit the establishment of any activities or industries that would adversely affect the operation of the facility.
  - (10) Have uncontaminated land, free from the prospect of hazardous substances that could subject the State or Federal government to liability for response, clean-up, and health costs or for natural resource damage costs, and free from conditions that would prevent or affect the construction, occupancy, and future operation of the facility.
  - (11) Should not be located on a flood plain.
- d. Special ARNG siting considerations. In addition to these criteria, the State should consider the following criteria as well.
- (1) Visibility – Public presence.
  - (2) Compatibility of adjacent and proximate land uses.
  - (3) Demographics.
  - (4) TAG vision and emphasis.
  - (5) Proponent requirements.
  - (6) Community requirements.
  - (7) Optimal placement of facilities on a given site.
  - (8) Arraying buildings for trafficability and providing screening of on-site activities from adjacent properties.
  - (9) Ability to expand the site in the future.
  - (10) Regionalization or consolidation efforts.
  - (11) Community requirements and partnering.
  - (12) Potential for joint use.
- e. Site selection criteria questions. In order to know where to construct new facilities to meet new requirements, such as Army Transformation, it is helpful to have previously evaluated each existing site for its future development potential. It is advantageous to assess and record a site's development potential when analyzing existing conditions at the site. This assessment could be combined with periodic real property inventories. In order to evaluate current and potential sites, there are certain questions to ask:
- (1) Site size. Does the site contain at least 15 acres to allow for buildings, utilities, roads, and parking while still meeting AT/FP stand off distances?
  - (2) Site access. Does the site have access to existing road infrastructure without being unnecessarily exposed by being located on a highway?
  - (3) Utilities. Can any new building hookup to required utilities (electric, water, sewer, gas, etc) that are existing or reasonably close?
  - (4) Level. Is the site relatively level or would it require an excessive amount of cut or fill to be usable?

(5) Floodplain. Is any portion of the site in a floodplain? Construction in a floodplain requires special approvals and construction techniques.

(6) Land use designation(s). Is the site compatible with existing land uses and local provisions for development or restrictions? Would new construction require waivers, which may cause delays or other concessions?

(7) Safety. Can construction proceed in a safe manner, and would occupants, especially pedestrians, be able to conduct training in a safe manner?

f. Site location. NGR 415-5 specifies that all facility acquisition or construction projects will be located (sited) in accordance with an approved RPDP. The proper siting of individual projects has a direct bearing on cost, sustainability, maintainability, force protection and safety, environmental impacts, operational efficiency, and constructability of projects.

#### **4-9. Force Protection**

The master planner must consider force protection early in the programming process, because AT/FP requirements have the potential to significantly increase the scope of a project (facility and site requirements). UFC 4-010-01 and UFC 4-010-02 govern the compliance of facilities with force protection Criteria. In addition, TM 5-304 provides instructions for the conduct of vulnerability assessments, generation of design basis threats, and determination of compliance with minimum detail standards, AT/FP measures, and alternatives.

#### **4-10. Enclaves**

ARNG enclaves exist on Active and Reserve (other than ARNG) Component Installations when the ARNG has a license to operate and train on another installation and the installation retains real property accountability for those facilities that the ARNG uses. Therefore, the ARNG does not have real property accountability for the facilities it uses, even though it has a real estate instrument (license or permit) for these facilities. There are additional considerations when planning to construct facilities on such an enclave.

a. You must comply with the applicable real estate instrument. This even applies to site work, such as clearing property.

b. Construction must comply with the IDG for the installation (as applicable).

c. You may have to coordinate with the installation for project scoping. It is essential to include the installation in the programming charette process.

d. Coordinate with the installation to verify force protection and safety (range, air, and ground) compliance.

e. Coordinate with the installation for utility support.

f. Ensure that you complete all environmental requirements (i.e., ESA (Environmental Site Assessment) for land acquisition, and NEPA for any Federal action, etc).

#### **4-11. Range Complex Master Plan (RCMP)**

An RCMP is a comprehensive look at the entire State or training center range requirements and how they match what currently exists.

a. It accommodates all the weapon systems that the State or training center needs to support to accomplish its Federal and State missions.

b. It looks at surface danger zones and range interactions to eliminate as many facility conflicts as possible in order to allow all the ranges to operate simultaneously. It considers if support facilities can be grouped to support multiple ranges.

c. It delineates training requirement in terms of what specific types and quantities of ranges are needed and where and how large the range should be.

d. It incorporates the previous term of Range and Training Land Program Development Plan (RDP), which is the final summary of the RCMP and lists the planned execution of the requirements evaluated in the RCMP.

#### **4-12. Sustainable Development**

Sustainability means "lasting." At the site level, sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Master planners shall develop plans and programs that are in harmony with, protect, and enhance the environment, and are fully observant of sustainable design and development policies and principles. Sustainable Development is making good long term planning decisions that strike a balance between natural and built environments and consider the impact of current decisions on future generations. The ARNG follows the US Green Building Council Leadership in Energy and Environmental Design (LEED®) rating system. Master planners shall strive to maximize sustainability in their

planning process for vertical construction projects in order to achieve the Silver level of LEED for new construction. Horizontal construction will incorporate sustainable design and development features to the maximum extent possible. Sustainability will be incorporated into master planning thought process and plan development by considering the following:

- a. Energy consumption and/or conservation
- b. Efficient building designs
- c. Clean air, water, and soil
- d. Treatment of solid and liquid wastes
- e. Transportation impacts
- f. Health and safety
- g. Construction methods and code compliance
- h. Demolition methods
- i. Recycling
- j. Landscaping
- k. Compatible land use

#### **4-13. Assessment of effects on the environment**

The real property master planning process shall embody the goals and objectives of the NEPA process, with emphasis on environmental and socioeconomic considerations, alternative courses of action, and public/agency involvement to determine the potential effects of RPDP proposals on environmental and socioeconomic resource areas.

a. RPDP. The RPDP clarifies and synthesizes information into a coherent future facilities vision. When fully developed, the RPDP will be the TAG's tool for the management and development of real property resources. Since the RPDP proposes an overall strategy for a site, it almost always lacks the detail or validated proposals that are necessary precursors for NEPA documentation. The RPDP environmental analysis, while embodying NEPA principles, is not intended to produce NEPA documentation. Nevertheless, all planning proposals that are reflected in the RPDP will be based on an analysis of the potential environmental effects of the planning proposals. NEPA documents for RPDPs should only be pursued when the plan has sufficient detail for meaningful analysis of all plan components, or when a NEPA analysis could provide valuable baseline information for future analysis of individual projects. In the latter case, individual projects would be "tiered" off of the RPDP's NEPA document. The benefit of "tiering" NEPA documents is cost/time savings for all subsequent analyses.

b. TCMP. The TCMP is a comprehensive planning document as described in AR 210-20 and, when elements of the plan are proposed, would require formal assessment of each proposal for its environmental effects as required by of 32 CFR 651, Subpart A, para 651.1(e). A NEPA analysis of proposed actions in a TCMP must be prepared in accordance with the procedures established in 32 CFR 651 and the NGB NEPA Handbook. Master plans are more comprehensive than site plans and often include environmental resources and considerations. Therefore, it is more beneficial to assess the environmental impacts of TCMP implementation (including all of the plan's component projects than it is to assess environmental impacts of each proposed action individually. The actual level of environmental documentation required (i.e., record of environmental consideration (REC), Environmental Assessment (EA), or Environmental Impact Statement (EIS)) will be determined by the scope of the action in relation to criteria in 32 CFR 651, Subpart 29, and whether there is an existing NEPA document from which to tier an analysis. For assistance with determining the level of NEPA analysis for TCMPs or plan components, reference Section 4.1 of the NGB NEPA Handbook.

c. Site Plan. The site plan is a graphical representation of existing and proposed facilities on a site. However, unless the proposed facilities are in FYDP, they are not ready for an informed decision under NEPA, and as such this site plan does not require environmental assessment. Facilities that are in the FYDP do require assessment for their environmental effects as required by 32 CFR 651, Subpart A, para 651.1(e). Like TCMPs, NEPA analyses should be prepared in accordance with the procedures established in 32 CFR 651 and the NGB NEPA Handbook. The actual level of NEPA documentation required for FYDP actions will be determined by the scope of the action in relation to criteria in 32 CFR 651, Subpart 29. The site plan typically requires much less environmental documentation than a complete TCMP, but there are many exceptions. For instance, if a TCMP requires an EA, it is often more efficient to complete a Master Plan EA when all of the activities are ripe for decision under NEPA. For assistance with determining the level of NEPA analysis for FYDP projects, reference Section 4.1 of the NGB NEPA Handbook.

d. Overlay. The overlay will graphically depict the baseline conditions at the site. The overlay will serve as the basis for the environmental quality, natural and cultural resources baseline analysis element of the land use controls,

as well as any expansion capability analysis. The overlay will portray concerns and constraints to installation development and mission accomplishment. It will draw from the representation of real estate, safety, environmental, natural and cultural resource management and include a composite map of data layers/groupings, such as:

- (1) Real estate acquisition and disposal actions
- (2) Safety zones
- (3) Surface/aerial limiting factors, for example, noise and flood plains
- (4) Wetlands
- (5) Threatened and endangered species
- (6) Natural/cultural resource related (e.g., soils, critical habitat, and archeological sites)
- (7) Underground hazards/limiters (e.g., ground water and Defense Environmental Restoration Account (DERA) issues)
- (8) Surface hazardous and toxic materials/waste issues
- (9) Underground storage tanks

#### 4-14. Coordination

Coordination is critical throughout any planning process. There are various types of coordination and different levels with whom planners coordinate.

a. Intra-agency coordination. The master planner coordinates with other CFMO personnel and with many different staff members of the various other organizations within the State JFHQ. The master planner should coordinate with each of the work centers in the CFMO (and the environmental office, if it does not all under the CFMO). The master planner also should coordinate with other key staff members of the JFHQ, to include the J-Staff, USPFO, G-3, Director of Information Management (DOIM), FIRO, Aviation and Safety Officer, ATPF coordinator, and the State Surface Maintenance Officer. Their input is critical to a successful RPDP.

b. Interagency coordination. In addition to the JFHQ, the master planner must also coordinate with the various other elements of the DoD and with State agencies outside the State Military Department. The Master Planner would coordinate with tenants, landlords, and other components with which joint facility construction might be considered.

c. External coordination. The master planner must coordinate outside DoD and the State Military Department with government agencies (including local and regional planning agencies) and local communities. It is imperative that the master planner coordinate with all stakeholders when generating either an RPDP or a TCMP. Typical stakeholders are the JFHQ, tenants, habitual trainers, Native American tribes, State and local governments, non-governmental organizations (NGO), and the surrounding communities. Where Memorandums of Understanding (MOU) or cooperative agreements with local agencies are established, the MOU or agreement must be consistent with DA policies and procedures. Coordinate the RPDP and TCMP with communities surrounding installations in order to:

- (1) Minimize impacts of installation operations and development on those communities.
- (2) Maintain awareness of, and respect for, the future growth patterns and development of the surrounding communities.
- (3) Seek mutual compatible land uses and zoning considerations to maintain the operational capability and future viability of the installation.
- (4) Ensure consideration and incorporation as appropriate of any State and local laws, policies, and regulations into the plan as appropriate.
- (5) Foster good planning relations with adjacent communities and demonstrate the ARNG's commitment to being a good neighbor.

d. Intergovernmental Coordination. At minimum, State and local laws, policies, and regulations provide many considerations and restrictions that affect developmental planning. States, Territories, and the District of Columbia should work with State, local and regional planning agencies to foster close and harmonious planning relations with adjacent communities. The resultant information from these relationships will be a valuable input to the master planning process. Some examples of this valuable input may be related to comprehensive land use planning and may serve to:

- (1) Identify community or local interest in a combined ARNG and community project.
- (2) Minimize impacts of National Guard operations, training and facility development on those communities.
- (3) Establish mutually compatible land uses and zoning to ensure future installation viability for training and operations.
- (4) Determine future growth patterns and development of the surrounding communities.
- (5) Determine the need for a JLUS.



- (6) Reduce encroachment that may impact range and air operations.

#### **4-15. State and Installation Planning Boards**

Each State typically has some sort of Installations Planning Board or Facilities Board. This Facilities Board should be conducted a minimum of twice a year to allow personnel in the State to meet together and collectively plan for real property.

a. The TAG shall establish a Facilities Board whose primary responsibility is to ensure that the facilities and infrastructure in the State are able to fully support the assigned ARNG missions. The Facilities Board should establish metrics to assess the management of CFMO resources. Metrics should be reviewed and acted on by the Facilities Board. The Facilities Board should review and act upon facility and infrastructure programs, upon any pending real property actions, and site development issues.

b. The responsibilities of the Facilities Board members are to review and validate facility programs and individual projects and to establish the need and priority order in which the projects are to be designed and funded. This is the "Project Priority List" and, as a minimum, should contain all validated projects within the current and next four fiscal years for SRM and MCNG projects. Board members representing a functional area should advocate their facility needs and assist in determining the impact proposed projects will have on the missions of other organizations. The Facilities Board should also ensure that project priorities and recommendations are executable in the year requested.

c. Collectively this Facilities Board:

- (1) Monitors development of the RPDP and makes recommendations to the CFMO/TAG.
- (2) Ensures that master planning requirements for all missions, organizations, and activities on installations in the State are addressed and recorded.
- (3) Ensures that maximum use is made of existing facilities and oversees the assignment and reassignment of space within existing facilities and land areas.
- (4) Recommends to the TAG/CFMO the priorities for project funding.
- (5) Guides the development and maintenance of all components of the RPDP.
- (6) Receives updates on the pending real estate actions that will affect the State's RPI.

d. This Facilities Board is augmented by four additional boards that provide information to be used in the facility planning process. The CFMO and the Master Planner should be involved with each committee or board.

(1) Stationing Committee. This group is chaired by G-3 staff or CFMO staff and develops recommendations for where to station units within the State.

(2) Facilities Construction Review Requirement Committee (CRRC). This committee determines the priority of MCNG projects in the LRCP and the prioritization of SRM projects. This group is often an integral part of the Facilities Board and the LRCP prioritization may well comprise one of Facilities Board meetings.

(3) Environmental Quality Control Committee. This committee provides oversight to ensure protection of the natural environment is preserved during construction and operation of facilities on State installations.

(4) JSRCFB. This board is established in each of the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, and the remaining U.S. possessions and Territories to meet at a minimum of once every 12 months to review all proposed military construction projects. It strives for joint use of land and facilities by units of two or more components to the greatest practicable extent for efficiency and economy. That includes consideration for the acquisition, by purchase, lease, transfer, construction, expansion, rehabilitation, or conversion of facilities necessary for the proper development, training, operations, and maintenance of the Reserve Components. The JSRCFB consists of one appointed principal member and one alternate member from each Reserve Component that has at least one unit in that State or Territory. The JSRCFB reviews proposed military construction projects to identify opportunities for joint construction or approval to construct a facility for unilateral construction. The results of each project review is documented on the DD Forms 1390/1391 for the project. The CFMO is the records custodian for the board.

#### **4-16. Submission Guidelines and Maintenance of the State RPDP**

The real property master planning process provides for continuity as leadership, missions, force structure, weapons, other equipment, and functions change and evolve. This paragraph provides guidance for amending an RPDP when changes are warranted.

a. Figure 4-4 lists the RPDP submittal requirements for each component of the RPDP.

b. The planning process must also allow for necessary updates and changes to the RPDP, while assuring that changes are made only when warranted. The RPDP is composed of distinct components that should be continuously updated and reviewed throughout the year. As these components are revised the RPDP is being updated. Other than

the submissions required below (Figure 4-4) there is no requirement to submit the entire RPDP to NGB. States will update the LRCP at least annually and update other components of the RPDP when any of the following changes occur:

- (1) Significant change to overall assigned strength
- (2) Force structure or types of units if change impacts or could impact facilities
- (3) Federal, State, or unit missions that may trigger the need for different real property use
- (4) New equipment fielding plans/equipment modernization
- (5) Significant changes in facility criteria
- (6) Operational safety, training, and/or environmental requirements that affect on- or off-post land use
- (7) Significant changes in real property assets (through new construction, demolition, or facility change in purpose)

c. NGB suggests using a 3 ring binder to hold all the pieces of the RPDP in a single location. This is the best way to satisfy the requirement to maintain a consolidated RPDP in the single location directed by the CFMO and still make it easy to update when changes occur. How often you update the 3-ring binder is a function of cost and usability. Recognize that the TAB can be updated periodically online and the single hardcopy location may not reflect the latest information.

Name	NGB Action	Submission and updating instructions
TAG Narrative	Reviewed by NGB-ARI.	Text document signed by TAG when he/she approves LRCP. Submitted electronically to NGB-ARI by the same date as signed top priority projects from the LRCP are due to NGB for consideration in the IRP.
TAB	NGB approves requirements edits in RPLANS.	Updated in RPLANS. State edits requirements continuously and edits reviewed at NGB. No submission of TAB to NGB is required.
LRCP	NGB extracts data as needed to produce the NGB FYDP.	Updated and approved annually by TAG. Top priorities are due to NGB for consideration in the IRP. Serves as the basis for the CIS for the state.
Site Plans for projects in FYDP	NGB approves as part of MCNG project approval.	Submitted with Certificate of Title (State land) or License/Permit (Federal land) for MCNG projects IAW NGR 415-5. Less detailed one due with conceptual design submission
Other Site Plans	No NGB action. Do not forward to NGB except by special request. Plans are available for review at CFMO.	Continuously updated at JFHQ/CFMO within available resources. Submit to NGB only upon specific request.

**Figure 4.4. Guidelines for submission of RPDP Components**

## Chapter 5 Master Planning Resources

### 5-1. General

This chapter explains what financial resources are available for you to complete your assigned tasks. These funds range from those required to operate a master planning cell to funds required to execute planning and programming tasks associated with projects generated by the master planning process.

### 5-2. Office Operating Funds

a. Funding for master planning activities is based on a model recommended by the RPMPAC. This model divides States into small, medium, and large categories based on a five factor cumulative score. These factors are total State ARNG ASIP population, total acreage under State ARNG control, number of individual sites, total number of buildings, and overall size of the State land area (relates to driving time for master planner site visits). These five factors have the most direct impact on the master planning workload. Each State size category has a certain number of master planning and GIS full time equivalents (FTEs) associated with it. The model assumes a certain base salary and a certain amount for travel, training, and equipment per FTE.

b. The State may use these funds to hire Federally reimbursed State employees to perform master planning and GIS functions or they may hire a contract firm to support the CFMO or they may use some combination of the two.

c. The model recognizes that States generally do not have the in-house resources to complete full scale master plans IAW AR 210-20, to complete digitization of existing data, or to acquire additional master planning information. Where States cannot accomplish such tasks themselves, they should use a combination of in-house resources and contract support. A sample Statement of Work (SOW) for such support is at Appendix K.

d. To receive funds above Program Budget Guidance (PBG) to support master planning activities, the State must request them in the annual budget submission provided to NGB-ARI-FM by the CFMO's Resource Manager NLT 30 June annually. This submission must include both requests associated with the model and requests for additional contract support by master planning activity. Requests for additional contract support must be supported by an earlier approved response to NGB-ARI-RE data calls.

e. Funds received above PBG for master planning are to be utilized to support authorized master planning and GIS activities and are not to be transferred elsewhere within or outside of the Construction and Facilities Management Office.

### 5-3. Funding Sources

a. Activities in which master planners are involved are funded from two appropriations: OMNG and MCNG. Most work that master planners do is funded by OMNG, but master planners are integral to projects funded by MCNG.

b. These two appropriations have different purposes and last different periods of time. Generally the OMNG appropriation is only available for the bona fide needs of one fiscal year; whereas the MCNG appropriation is available for bona fide needs for five years.

c. However, both appropriations have restrictions.

(1) The OMNG appropriation is only available for repair projects within the limit specified in 10 USC §18233a, is only available for construction projects within the limit specified in 10 USC §18233b, and is only available for procurement of items within the current expense/investment threshold.

(2) A portion of the MCNG appropriation is set aside only for planning and design, a second portion is set aside only for urgent and unforeseen construction projects within a statutory limit specified in 10 USC 18233a, and a third portion is set aside only for specified construction projects. Money cannot be moved among these portions unless NGB-ARI receives concurrence from the Secretary of Army and the Secretary of Defense and Congress formally approves the moves.

d. For programming and execution purposes, the Army assigns programs to Management Decision Evaluation Packages (MDEP). Much of the work that master planners do falls under the MDEP QDPW, which exclusively is executed in the OMNG appropriation. However OMNG repair and construction projects fall under MDEP QRPA, and OMNG demolition falls under MDEP QDEM. In addition, each MCNG funded project may fall into one of more than half a dozen MDEPs, depending on the project type. Advance planning for all projects is executed in the OMNG appropriation, but certain military construction advance planning activities (i.e., NEPA) are executed in the MDEP of the military construction project.

e. The actual expenditure of funds associated with master planning activities is also recorded with an Army Management Structure Code (AMSCO). For details consult your CFMO's Resource Manager and the current year DFAS Manual 37-100-XX.

### 5-4. Funded Programs

a. Advance planning. The following are an illustrative but not a complete list of advance planning activities. They should be completed before contracting for the planning and design of construction projects.

(1) Developing the requirements for a military construction project (i.e., project formulation).

(2) Developing and updating planning documents such RPDP and the RCMP.

(3) Initial explorations of project alternatives and rough drawings.

(4) Facilities related management studies.

(5) Conceptual analysis.

(6) Making alternative site studies.

(7) Developing and validating military construction project documentation prior to commencing project design.

(8) Preparing engineering analyses and studies to develop technical design parameters prior to commencing project design.

b. Sustainment. Sustainment consists of maintenance and repair activities necessary to keep an inventory of facilities in good working order. It includes regularly scheduled adjustments and inspections, preventive maintenance tasks, and emergency response and service calls for minor repairs. It also includes major repairs or replacement of facility components (usually accomplished by contract) that are expected to occur periodically throughout the life cycle of facilities. This work includes regular roof replacement, refinishing of wall surfaces, repairing and replacement of heating and cooling systems, replacing tile and carpeting, and similar types of work. The planner should identify these requirements when updating the facility life cycle plan and the maintenance and repair program. Sustainment is executed with OMNG funds.

c. Restoration. Restoration is the repair and replacement work to restore facility components damaged by lack of sustainment of another facility component, natural disaster, fire, accident, or similar causes. Restoration may be to overhaul, reprocess, or replace deteriorated component parts or materials to current industry standards. Restoration may include the relocation or reconfiguration of land and building components and utility systems and the upgrade of the same to current building and other codes. Restoration may be executed with both OMNG and MCNG funds, depending on the size and scope of the project (i.e., whether a facility component or the entire facility is being restored). Restoration and modernization should both be identified during the update of the capital plan and facility life cycle plans.

d. Modernization. Modernization is the construction of new or alteration of existing facilities solely to implement new or higher standards (including regulatory changes), to accommodate new functions (or change the purpose of a facility), or to replace building components that typically last more than 50 years (such as foundations and structural members). Modernization is usually executed with MCNG funds but not exclusively, if the construction involves only a portion of a facility or a small addition/alteration. Replacement of complete facilities, whether by restoration or modernization, is the most complete form of facility recapitalization.

e. Demolition. Demolition consists of the complete dismantling, tearing down, razing, wrecking, or burning of a fixed building or facility, to include the removal of foundations, utilities, and all debris, the backfill of all areas excavated by the work to maintain site grades and contours, and the reseeding of the property. Demolition is one method of disposing of excess facilities and may be executed with OMNG or MCNG funds, depending on the context of the demolition.

### 5-5. Acquisition of Funds for OMNG Activities and Projects

a. Each year NGB-ARI provides the CFMO PBG in MDEPs QRPA and QDPW. With certain, financially minor exceptions, the CFMO is expected to execute all of his/her responsibilities within these funding limits.

(1) PBG in each MDEP is based on the State's percentage contribution to NGB's earned requirements in Army/OSD models. That is, if a State earns x% of NGB's requirements, it will receive x% of funds available after decisions by the NGB Program and Budget Activity Committee (PBAC) and by NGB-ARI on its centrally managed programs. Models for both MDEPs rely on the real property inventory from three years previous to the fiscal year being funded. The models assign a cost factor to each facility type.

(2) The only sources of additional funds are extra contributions from the State, program income, and the State PBAC, the latter usually chaired by the Chief of Staff and/or the USPFO.

b. NGB-ARI funds certain activities above PBG. All of these must be identified in the annual budget submission provided to NGB-ARI-FM by the CFMO's Resource Manager NLT 30 June annually. Nothing precludes a State from funding these items from the PBG if NGB-ARI disapproves funding above PBG. These elements include:

- (1) Master planning, as described in para 5-2 above.
- (2) Programming charettes for MCNG projects in later years of the FYDP.
- (3) NEPA requirements for MCNG FYDP projects, executed in the MDEP of the MCNG project.
- (4) Certain training center operated utilities distribution system modernization and demolition projects and major investments at certain national training centers. States compete for a very limited amount of money in each of these areas and must submit NGB Form 420s directly to the NGB-ARI program manager for these projects.

c. All other advance planning activities and OMNG projects must be executed from within PBG. Thus, the master planner must compete with other resource needs of the CFMO using all his/her tools: RPDP, capital investment strategy, and facility life cycle plans. These tools, if well and thoroughly executed, should tell you how and when to sustain, restore, and modernize facilities and provide you ample justification when the CFMO is making resourcing decisions. These decisions will in turn be reflected in the annual budget submission provided to NGB-ARI-FM by the CFMO's Resource Manager NLT 30 June annually.

### 5-6. Identifying and Obtaining MCNG Projects

a. A major goal of every State is to recapitalize its facilities at least every 67 years to current criteria and standards and constructing facilities to support new missions or Army directed changes in force structure.

b. A major basis of determining a State's progress toward this goal has to be regular updates to its RPDP. This will involve more than just an examination of the TAB and determining gross shortages and overages. A State must constantly update its strategic planning vision and have detailed knowledge of force structure changes, recruiting demographics, and individual facility information from the RPI, ISR-Infrastructure, corrected as-built drawings, and safety and environmental reports.

c. Alternatives planning, thus, is the first step in getting an MCNG project. A State must identify what it needs to do, when, where, in what order, and at what cost. This is why NGB-ARI funds master planning above PBG; the basics of master planning – and how master planners earn their salaries – are critical and fundamental to a successful facilities program.

d. As the final step in alternatives planning, a State biannually (in even years) submits its LRCP to NGB-ARI. The LRCP not only contains a list of the project, its location, cost, and scope, but also contains DD Forms 1390/1391 for the TAG's top priority projects.

e. An LRCP sounds simpler than it really is. Projects on the LRCP are competing for a place in the FYDP, which is a financially limited list of projects that cannot easily accommodate changes.

(1) A master planner must be able to forecast the most important new facility requirements more than five years into the future. At best, if a State is successful, it will receive a project in the FYDP to be executed six years from the year the top priority projects in the LRCP are submitted. If a State has an immediate requirement, an LRCP submission is too late and the State is forced to adapt its inadequate facilities or accomplish assigned missions with other facilities. Therefore, master planners must look more than six years out and anticipate when facilities need to be replaced.

(2) There are many more projects required in any given year than there are funds available to distribute among them. Therefore, the State must ensure that its priority projects compete well in the IRP process. NGB Memorandum 415-15 delineates the factors considered and the weighting used in the prioritization process. Thus, the LRCP must clearly identify the facilities being replaced, and the accompanying DD 1390/1391 must specifically (not generically) address current facility functional, environmental, and safety deficiencies in order to compete favorably.

(3) Once a project is selected for the FYDP, there is limited flexibility to adjust costs. Thus, DD Forms 1390/1391 that accompany the LRCP must be fully scoped, identifying all units and incorporating all facility allowances from NG Pam 415-12, and must be accurately costed, using the OSD Facilities Costing Guide inflated to six fiscal years beyond the date of submission of the LRCP. Master planners must take advantage of professional assistance at the DD Forms 1390/1391 workshops held in the fall and winter prior to an LRCP submission.

### 5-7. Executing MCNG Projects

a. A State's goal is to get a project in the FYDP; NGB-ARI's goal is to ensure that the State executes it in the first year of appropriation. Achieving this goal requires detailed backward planning. There are preliminary milestones a State should meet in order to keep its project in current programmed year of the FYDP.

(1) FY-7/8: (Note-read this as the FYDP year minus 7 or 8 years.) Complete alternatives planning, obtain TAG priorities, and take advantage of DD Forms 1390/1391 workshops.

(2) FY-6/7: Submit LRCP.

(3) FY-4: Complete programming charette for the MCNG project.

(4) FY-3: Submit final updated DD Forms 1390/1391 and MCCA.

(5) FY-2: Submit conceptual design and approved NEPA and Certificate of Title.

(6) FY-1: Submit final design.

(7) FY: Award project.

b. The critical step is FY-3 when by March 1, a State must submit its last updated DD Forms 1390/1391. Reaching this goal requires the master planner to complete the following tasks.

(1) On an annual basis once the project is in the FYDP the State must revisit its DD Forms 1390/1391 to ensure that there have been no changes to the project site, the supported units, the facilities allowances, and the project costs (inflated to the FYDP year, not the State's "desired" year of construction). This State review involves coordination with all affected stakeholders in the State. States would post the revisited DD Forms 1390/1391 on GKO and the CFMO must communicate any cost changes to NGB-ARI-RM if these changes require a change in the FYDP amount.

(2) As soon as the project is in the FYDP, the State must begin the process of acquiring the land on which the project will be constructed. The location should already have been identified in the alternatives planning process, and only a decision on alternative sites in the immediate area should be required at this point. Land acquisition is a State responsibility and must be done with funds not Federally reimbursed. The acquisition must include an ESA, which is not a Federally reimbursed cost unless the project is on Federal property. In the latter case, the State must contact Army Environmental Programs Division (NGB-ARE) to obtain a task order on the NGB-ARI funded national ESA/EBS (Environmental Baseline Study) contract.

(3) Acquisition of the land for the project site is critical because without a site the State will be unable to proceed further with final scoping and NEPA requirements.

(4) No later than FY-4 the State should complete a programming charette. To conduct a charette the State needs to request funds above PBG in the annual budget submission provided to NGB-ARI-FM by the CFMO's Resource Manager NLT 30 June annually. Timing is problematic, because you want to allow sufficient time to obtain deliverables (including your final DD Forms 1390/1391 due 1 March FY-3), to remain close enough to the execution date to account for any costing changes (units and equipment), and yet still to be able to compete for a FYDP cost adjustment.

(5) As soon as the State acquires the land, it must begin accomplishing requirements of NEPA. The State may not proceed beyond preliminary design without approved NEPA documents. Ideally, a State would begin the process no later than FY-4 and preferably FY-5, in order to allow sufficient time for difficult processes. That is, a State must allow at least a year and should take into account that some projects may require three years for NEPA completion. To conduct NEPA, the State needs to request funds above PBG in the annual budget submission provided to NGB-ARI-FM by the CFMO's Resource Manager NLT 30 June annually. It is critical that the State:

- (a) Integrates the requirements of NEPA early in the planning and decision-making process.
- (b) Ensures that environmental considerations dictate the final decision and not vice-versa.
- (c) Ensures that environmental factors and constraints are dealt with concurrently with arising engineering issues, as the State scopes and makes final decisions.

(6) Figure 5.1 summarizes the timelines for submitting required project data to NGB. For timelines in subsequent years simply increase the milestone by the number of years added to the applicable FY.

Applicable FY Program	Date Due to NGB	Description of Due Out
2011	1 March 2008	Submit updated DD Forms 1390/1391
2011	1 June 2009	Submit conceptual design, site plan, NEPA, EBS, and certificate of title
2011	1 July 2010	Submit final design
2011	30 September 2011	All authorized projects are awarded for this and prior years
2012	1 March 2009	Submit updated DD Forms 1390/1391
2012	1 June 2010	Submit conceptual design, site plan, NEPA, ESA, and certificate of title
2012	1 July 2011	Submit final design
2012	30 September 2012	All authorized projects are awarded for this and prior years

**Figure 5.1. MCNG Milestones**

c. Programming charettes. These are used to define the scope and estimated cost of MCNG projects and have proven to be invaluable in garnering a mutually agreed-to scope among the user, proponent, and authorizing elements at both the State and NGB. They are critical to properly scoping projects, ensuring stakeholder and facility user participation in the planning process, and meeting MCNG execution goals. These charettes:

(1) Provide mission and infrastructure information, to include all unit, manning, and equipment, and site documentation (including existing geo-technical data), necessary to accurately scope and cost the MCNG requirement and any supporting items funded from the procurement and operations and maintenance appropriations.

(2) Allow key players, to include the command group and senior leadership, to review any preliminary MCNG project programming information and provide information, to include unusual requirements affecting project costs that will be utilized to generate an accurate programming document.

(3) Document the scoping process, to include decisions made during the charette, which must include recommendations on phasing if the revised cost exceeds what is currently in the FYDP and which must include a coordination sheet signed by all the key players.

(4) Produce valid and complete DD Forms 1390/1391 for the project, to include appropriate scope, a parametric cost estimate, and approved exceptions to criteria from the NGB proponent. Include copies of the unit, manning, equipment documents, and other supporting documents used to scope the project.

(5) Provide a recommendation regarding the project acquisition methodology. Design-Build, or Design-Bid-Build will be recommended during the charette process. The DD Forms 1390/1391 will reflect this recommendation.

(6) Identify potential opportunities, challenges and issues surrounding AT/FP, required facility reduction (i.e., disposal of square footage equal to what is being constructed), and sustainable design (i.e., achieving a LEED rating of Silver), provide an order of magnitude analysis of the impact of these items on project costs, and initiate the LEED checklist.

(7) Prepare a summary of the Architect-Engineer (A-E) assumptions used to cost each of the components of the project.

(8) Produce a rudimentary concept design (e.g., hand-sketched single line drawings), to include bubble diagrams that show the relationship of all functional areas and planning analysis drawings that show site conditions and restrictions and provide options on locating facilities and utilizing the project site.

d. Design Charettes. To receive Federal MCNG design funds, a State must have an approved DD Forms 1390/1391, a signed MCCA (for projects executed with State contracting procedures), and must have requested funds on NGB Form 86. Once a State has design funds, it may elect to conduct a design charette as part of Type A (Title I) investigative design services. A design charette allows the design to work in conjunction with the stakeholders to develop a very basic facility/site layout.

## **Chapter 6**

### **Master Planning Education and Training**

#### **6-1. Master Planner**

Master planners are required to coordinate a variety of activities both within the CFMO and with other agencies in the State that all lead toward sufficient well-maintained facilities of the right type at the right locations. This chapter describes resources to help the CFMO select, hire, and train personnel to be effective State master planners.

a. Master planner skills. The first guide is a skills matrix indicating the recommended skills, knowledge, and abilities (SKA) that an experienced master planner should possess or master within a reasonable period of on-the-job performance. Because each State may be unable to hire a master planner with all these SKA already requisite or because a State may want to develop a master planner who will eventually possess these skills, training is available. Therefore, Appendix L contains an SKA guide/matrix and Appendix M illustrates the courses where these skills may be acquired at each of the three levels addressed.

b. Master planner position description. A sample master planner position description is provided in Appendix N.

#### **6.2. GIS Specialist**

a. While master planners are required to coordinate and develop plans, the GIS specialist collects, organizes, displays, and interprets spatial data to help decision making. Because each State has one GIS program that provides services to many agencies (facilities, environmental, training, recruiting, safety), the SKA required could be rather diverse. However, often a State may have several GIS specialists who shown in Appendix L are those specifically identified to support the data and analysis needs for facilities.

b. Because the GIS specialist supports so many different programs, the available training is more generalized than just focusing on how to support facilities decision-making. Several GIS course offered at CFMO University are described in Appendix M. In addition to CFMO University courses, there are a significant number of training and educational offerings which can help to meet these position requirements. Appendix M identifies under the listing courses the level of training offered for several of the KSA.

c. A sample GIS position description is provided in Appendix N.

**Appendix A****References**

Most of these references are available electronically as listed below:

1. United States Code:  
[www4.law.cornell.edu/uscode/](http://www4.law.cornell.edu/uscode/) or  
[www.access.gpo.gov/congress/cong013.html](http://www.access.gpo.gov/congress/cong013.html) or  
<http://uscode.house.gov/usc.htm>.
2. Code of Federal Regulations: [www.access.gpo.gov/nara/cfr/cfr-retrieve.html#page1](http://www.access.gpo.gov/nara/cfr/cfr-retrieve.html#page1).
3. Executive Orders: [www.nara.gov/fedreg/eo.html](http://www.nara.gov/fedreg/eo.html) . However, this reference, except for recent executive orders, only provides a summary and citations to the Federal Register. The address of the Federal Register is [www.access.gpo.gov/nara/index.html](http://www.access.gpo.gov/nara/index.html).
4. Department of Defense Publications: [www.dtic.mil/whs/directives/](http://www.dtic.mil/whs/directives/).
5. Army Regulations and Pamphlets: [www.army.mil/usapa](http://www.army.mil/usapa).
6. Technical Manuals: [www.usace.army.mil/inet/usace-docs/armymt/](http://www.usace.army.mil/inet/usace-docs/armymt/) .
7. National Guard Regulations and Pamphlets: [www.ngbpdn.ngb.army.mil/](http://www.ngbpdn.ngb.army.mil/).

**Section I****Required Publications****AR 5-18**

Army Stationing and Installation Plan (ASIP). (Cited in para 3-3a(1).)

**AR 200-1**

Environmental Protection and Enhancement. (Cited in paras 3-4b and 4-5e(5)(b).)

**AR 200-2**

Environmental Effects of Army Actions. (Cited in paras 4-5e(5)(b).)

**AR 210-20**

Real Property Master Planning for Army Installations. (Cited in paras 3-4e(e), 4-3b, 4-6c, 4-7, 4-13b, 5-2c, J-4a, Figure O-1, and O-2a.)

**AR 210-21**

Army Ranges and Training Land Program. (Cited in paras C-1b and C-2f(1).)

**AR 350-19**

The Army Sustainable Range Program. (Cited in Figure C-1 and paras C-1b and C-2f(1).)

**AR 385-63**

Range Safety. (Cited in para B-3.)

**AR 385-64**

U.S. Army Explosives Safety Program. (Cited in para B-3.)

**AR 405-70**

Utilization of Real Property. (Cited in paras 3-2f, 3-5a(2), and 3-5b(2).)

**AR 405-90**

Disposal of Real Estate. (Cited in para 4-5e(5)(d).)

**32 CFR 651**

Environmental Analysis of Army Actions. (Cited in paras 4-13b and 4-13c.)

**DA Pam 385-63**

Range Safety. (Cited in para C-2d(1).)



**DA Pam 415-28**

Guide to Army Real Property Category Codes. (Cited in Glossary.)

**DAIM-ZA Memorandum, 20 April 2005.**

Data Standards. (Cited in para J-2b(1).)

**DFAS Manual 37-100-XX**

The Army Management Structure. (Cited in para 5-3d.)

**EM 1110-1-23**

Engineering and Design, Geospatial Data and Systems. (Cited in para J-2b(3).)

**Executive Order 12906**

Coordinating Geographic Data Acquisition and Access: The National Spatial Data Infrastructure. (Cited in para J-4b.)

**Executive Order 13286**

Amendment of Executive Orders, and Other Actions, in Connection With the Transfer of Certain Functions to the Secretary of Homeland Security. (Cited in para J-4b.)

**HNDM 1110-1-23**

USACOE Design Manual for Remoted Target System (RETS) Ranges. (Cited in para C-2f(3).)

**National Guard Bureau – Army National Guard Real Estate Manual for Federal Property**

(Cited in para 4-3a(10).)

**NGB DG 415-1**

Readiness Centers Design Guide. (Cited in para 4-7.)

**NGB DG 415-2**

Logistics Facilities Design Guide. (Cited in para 4-7.)

**NGB DG 415-3**

Aviation Facilities Design Guide. (Cited in para 4-7.)

**NGB DG 415-4**

Training Site Facilities Design Guide. (Cited in para 4-7.)

**NGB DG 415-5**

General Facilities Information Design Guide. (Cited in para 4-7.)

**NGB Memo 415-15**

Infrastructure Requirements Plan Process. (Cited in para 5-6e(2).)

**NGB NEPA Handbook** (Cited in paras 4-13b and 4-13c.)

**NG Pam 415-5**

Army National Guard Military Construction Program Execution. (Cited in paras C-1, C-2a, and C-2d(1).)

**NG Pam 415-12**

Army National Guard Facilities Allowances. (Cited in paras 3-3f, 3-5b(2), 3-5b(2)(b), 3-6c, 4-3a(3), 4-4d(3), 4-5e(5)(a), 5-6e(3), H-5a, H-5c, H-5c(2)(a), H-5(2)(f), H-6a, H-6b, H-7a, H-7b, and H-11.)

**NGR 5-3**

Army National Guard Training Centers. (Cited in para 4-6b.)

**NGR 210-20**

Real Property Development Planning for the Army National Guard. (Cited in paras 1-1b, 3-2, 4-3a, 4-6, Figure C-1, and Figure O-1.)

**NGR 405-80**

Army National Guard Program. (Cited in para 4-3a(10).)

**NGR 415-5**

Military Construction Program Development and Execution. (Cited in paras 3-5d(2)(a), 3-5d(2)(d), 4-3a(7), 4-3a(10), 4-4c(2), 4-4d(2)(a), 4-4d(2)(b), 4-4d(3), 4-6, 4-8c, 4-8f, and Figure 4-4.)

**NGR 415-10**

Army National Guard Facilities Construction. (Cited in paras 3-5b(2) and 4-6.)

**TC 25-8**

Training Ranges. (Cited in para C-2a.)

**TM 5-304**

Army Facilities Components System User Guide. (Cited in para 4-9.)

**UFC 4-010-1**

Design: DoD Minimum Anti-Terrorism Standards for Buildings. (Cited in paras 3-4a and 4-9.)

**UFC 4-010-2**

Design (FOUO): DoD Minimum Standoff Distances for Buildings. (Cited in paras 3-4a and 4-9.)

**10 U.S.C. §2684a**

Real Property; Related Personal Property; and Lease of Non-Excess Property: Agreements to Limit Encroachments and Other Constraints on Military Training, Testing, and Operations. (Cited in para 4-6g.)

**10 U.S.C. §18233a**

Facilities for Reserve Components: Notice and Wait Requirements for Certain Projects. (Cited in paras 5-3c(1) and 5-3c(2).)

**10 U.S.C. §18233b**

Facilities for Reserve Components: Authority to Carry Out Small Projects with Operation and Maintenance Funds. (Cited in para 5-3c(1).)

**42 U.S.C., Chapter 103**

Comprehensive Environmental Response Compensation and Liability Act (CERCLA). (Cited in para 3-4c.)

**42 U.S.C., Chapter 126**

Americans with Disabilities Act. (Cited in para 4-5d(4).)

**42 U.S.C., §6901-6992.**

Resource Conservation and Recovery Act (RCRA). (Cited in para 3-4c.)

**Section II****Related Publications****AR 1-1**

Planning, Programming, Budgeting, and Execution System

**AR 5-10**

Stationing

**AR 11-2**

Management Control

**AR 11-27**

Army Energy Program

**AR 11-32**

Army Long Range Planning System

**AR 95-2**

Air Traffic Control, Airspace, Airfields, Flight Activities, and Navigation Aids

**AR 115-11**

Geospatial Information and Services

**AR 190-13**

The Army Physical Security Program

**AR 200-3**

Natural Resources – Land, Forest, and Wildlife Management

**AR 200-4**

Cultural Resources Management

**AR 405-10**

Acquisition of Real Property and Interests Therein

**AR 405-45**

Real Property Inventory Management

**AR 405-80**

Management of Title & Granting Title of Real Property

**AR 415-28**

Real Property Category Codes

**AR 420-10**

Management of Installation Directorates of Public Works

**36 CFR Part 800**

Protection of Historic Properties

**DA Pam 405-45**

Real Property Inventory Management

**DoDD 1225.7**

Reserve Component Facilities Programs and Unit Stationing

**DoDI 1225.8**

Programs and Procedures for Reserve Component Facilities Programs and Unit Stationing

**Executive Order 11988**

Flood Plain Management

**Executive Order 11990**

Protection of Wetlands

**Executive Order 12088**

Federal Compliance with Pollution Control Standards

**Executive Order 12148**

Superfund Implementation

**Executive Order 12580**

Federal Emergency Management

**Executive Order 12608**

Elimination of Unnecessary Executive Orders and Technical Amendments to Others

**Executive Order 12898**

Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

**Executive Order 12948**

Amendment to Executive Order 12898

**Executive Order 13007**

Indian Sacred Sites

**Executive Order 13045**

Protection of Children From Environmental Health Risks and Safety Risks

**Executive Order 13101**

Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition

**Executive Order 13148**

Greening the Government Through Leadership in Environmental Management

**Executive Order 13327**

Federal Real Property Asset Management (Feb, 4, 2004 – Establishment of Responsibilities of Agency Senior Real Property Officer to promote efficient and economical use of America's real property assets and management accountability)

**Memorandum, DAIM-MD, 16 October 2001**

Data Standards for Computer Aided Drafting and Design (CADD), Geographic Information System (GIS) and Related Technologies

**NG Pam 420-10**

Construction and Facilities Management Office Procedures

**NGR 420-10**

Construction and Facilities Management Office Operations

**TB 5-80303**

Automated Map Data Base Standard for Army Installations

**TB ENG 353**

Installation Master Plan Preparation

**TC 25-1**

Training Land

**TM 5-803-1**

Installation Master Planning

**UFC 3-260-01**

Airfield and Heliport Planning and Design

**10 U.S.C. Chapter 159**

Real Property

**16 U.S.C. § 470 et. seq.**

National Historic Preservation

**16 U.S.C. §§1271-1287**

Wild and Scenic Rivers Act

**16 U.S.C. §§1531-1544**

Endangered Species Act

**42 U.S.C. §300f et. seq.**

Safe Drinking Water Act

**42 U.S.C. §1996**

American Indian Religious Freedom Act

**42 U.S.C. §§4151-4157**

Architectural Barriers Act of 1968

**42 U.S.C. §§4321-4370a**

National Environmental Policy Act

**42 U.S.C. §§7401-7661**

Clean Air Act

**Section III**

**Prescribed Forms**

There are no entries in this section.

**Section IV**

**Referenced Forms**

**DD Form 1354**

Transfer and Acceptance of Military Real Property

**DD Form 1390**

FY\_\_ Military Construction Program

**DD Form 1391**

FY \_\_ Military Construction Project Data

**NGB Form 86-R**

Funding Data for MCNG Contract

**NGB Form 420-R**  
OMNG Project Request

**Appendix B**  
**Typical Contributory Information for Planning**

**B-1. General**

Contributory information and existing plans provide much of the required supporting information needed to create a comprehensive and integrated installation RPDP. Contributing information and plans portray existing conditions and the real property mission requirements. An RPDP will address in the planning analysis what specific contributory information and plans are required to support the planning effort and what additional contributory planning efforts are needed. All contributing documents used in preparing an RPDP will be properly documented in a reference section of the component or RPDP. Contributory information and plans used will be cited in the components giving the reference name, page, and date published.

**B-2. Documents**

Many different documents will be used and referenced in the preparation of the RPDP and the TCMP. Departmental and command plans, programs, and initiatives are also useful sources of planning information. These documents address a wide spectrum of issues, including such areas as infrastructure and infrastructure assurance, natural and cultural resources, information systems, AT/FP, and overall installation quality of life.

**B-3. Contributory Information**

Figure B-1 lists typical contributory information that will be reviewed for real property implications when developing an RPDP. Typical JFHQ proponents are also shown. This table is not all inclusive and may vary among States. Figure B-2 lists typical contributory information that will be reviewed for real property implications when developing a TCMP. Range Surface Danger Zones and Explosives Safety Site Plans are two critical elements of information that are used in the generation of the TCMP. The TAG will ensure that all TCMPs for locations with ranges and/or Ammunition Supply Points (or other recurring ammunition/explosives handling facilities) comply with the provisions of AR 385-63 and AR 385-64. This table is not all-inclusive and may vary among training centers.

<b>DOCUMENT TYPE</b>	<b>TYPICAL INSTALLATION PROPONENT</b>
Various HQDA and NGB Plans, Guidance and initiatives	Respective HQ
Existing Conditions Maps. These maps graphically portray existing conditions on the installation.	The DEH is required to have the following: regional map, airfield map (if applicable), installation and site land use map(s), property boundary/ parcel maps, building site maps, transportation maps, utility and storm drainage maps. These maps may be maintained by either the Master Planner or the Real Estate/Real Property Officers.
Real Property Inventory	Contained in PRIDE by CFMO staff
Resource Management Plan	Budgetary Planning documents and NGB-ARI MDEP (SRM and BASOPS) POM information.
State Surface Maintenance Plan	J-4/State Maintenance Office
Information Technology Plan	DOIM, Information Assurance
Integrated Natural and Cultural Resources Management Plans	Local Environmental Office.
Historic Preservation Plan.	Local Environmental Office.

**Figure B-1. Contributory Sources of RPDP Information**

Other Environmental Management Plans such as the Integrated Pest Management Plan, Water Resources Management Plan, Installation Environmental Noise Management Plan	Local Environmental Office.
Land Use Control Management/Implementation Plans	Local Training Manager.
Critical Infrastructure and Force Protection Plans	Local and regional Security Manager.
Materiel/Equipment Fielding Plan	J-3, Deputy Chief of Staff for Operations.
Information Systems Plan and Plant-in-Place Maps	Deputy Chief of Staff for Information Management.
Regional Community Development Plans	Local Community Governments.
Various tenant activity plans and initiatives	Tenants.
Installation Status Report	CFMO
Range Complex Master Plan/Range and Training Land Program	J-3/DCSOPS
RPLANS	CFMO

**Figure B-1. Contributory Sources of RPD Information -- Continued**

<b>DOCUMENT TYPE</b>	<b>TYPICAL INSTALLATION PROPONENT</b>
Various HQDA and NGB Plans, Guidance and initiatives	Respective HQ
Existing Conditions Maps. These maps graphically portray existing conditions on the installation.	The DEH is required to have the following: regional map, airfield map (if applicable), installation land use map, building site maps, transportation maps, utility and storm drainage maps. These maps may be maintained by either the Development planner or the real property office.
Real Property Inventory	Contained in PRIDE by CFMO staff
Resource Management Plan	Budgetary Planning documents (Army Master Range Plan (targetry), NGB-ART MDEP (RTLTP and ITAM) POM information, and NGB-ARI MDEP (SRM and BASOPS) POM information.
Integrated Natural and Cultural Resources Management Plans	Local Environmental Office.
Historic Preservation Plan	Local Environmental Office.
Other Environmental Management Plans such as the Integrated Pest Management Plan, Water Resources Management Plan, Installation Environmental Noise Management Plan	Local Environmental Office.
Land Use Control Management/Implementation Plans	Local Training Manager.
Critical Infrastructure and Force Protection Plans	Local and regional Security Manager.
Range Complex Master Plan/Range and Training Land Program	J-3, Deputy Chief of Staff for Operations.
Explosive safety plan	Safety and J-3, Deputy Chief of Staff for Operations
Weapons Fielding Plan	J-3, Deputy Chief of Staff for Operations.
Information Systems Plan and Plant-in-Place Maps	Deputy Chief of Staff for Information Management.
Regional Community Development Plans	Local Community Governments.
Various tenant activity plans and initiatives	Tenants.
Installation Status Report	CFMO
RPLANS	CFMO

**Figure B-2. Contributory Sources of TCMP Information**

**Appendix C**  
**Relationship of Range Complex Master Planning to RPDP**

**C-1. General**

Planning for, designing, and constructing an automated Army standard range generally follows the planning, design, and construction procedures outlined in NG Pam 415-5. However, there are some additional considerations and actions that are required for execution of a range project.

a. ARNG ranges are included in the Army Master Range Program (AMRP). The AMRP is developed by the Department of the Army Deputy Chief of Staff for Operations (specifically DAMO-TRS) in coordination with the Army Training Support Center (ATSC), Army Corps of Engineers, NGB, and the States (for ARNG ranges).

b. As such, there are two additional, external organizations with whom the State will need to coordinate during design and construction. These organizations are the Army Corps of Engineers Huntsville Division (the Mandatory Center of Expertise (MCX)) for range projects and ATSC, which is the Army’s RTLP program coordinator for the Army range program. The regulatory requirement for this coordination is in AR 350-19, para 1-25. Without appropriate coordination with these two organizations, the Army can, and likely will, withhold centrally funded targetry. Therefore, it is absolutely essential that every MCNG range project be reviewed and coordinated with these two organizations. Oversight of this coordination is a shared responsibility between the NGB-ARI Facility Management Engineer and NGB-ART-S. The discussion below will provide recommendations for this involvement.

	STATE LEVEL	
	REAL ESTATE/REAL PROPERTY	RANGES
Program Name	Master Planning	Sustainable Range Program
Plan Name	Real Property Development Plan (RPDP)	Range Complex Master Plan (RCMP)
Regulation	NGR 210-20	AR 350-19
	SITE LEVEL	
Large Plan Name	Site Master Plan	Range and Training Land Program (RTLP)
Smaller Plan Name	Site Development Plan	Range Plan

**Figure C-1. Comparison of Master Planning with Range Planning**

**C-2. Detailed Discussion**

The following is a chronological list of actions and considerations that must occur for ARNG ranges in the AMRP.

a. Environmental. Per NG Pam 415-5, para 5-1, the environmental process should begin as early as practical. Range construction generally encompasses considerable earth disturbance (particularly those on land not previously used as a range). As such ranges often require at least an EA. The State should complete the ARNG Environmental Checklist and pay particular attention to those sections that pertain to earth disturbance, because these areas may well adversely affect the environment. States should ensure that environmental personnel assisting with the NEPA evaluation are aware of land disturbance and potential lead-related issues. TC 25-8, Appendix D, contains a diagram of each range, from which the States can derive an estimate of the disturbance areas for various common ranges. This information includes only the target area. As such, the actual amount of disturbance will be slightly higher than these amounts. In addition to the NEPA documentation required, there may be other permits (e.g., air, water,) required by the jurisdiction in which the range will be constructed. It is always a good idea for States to have their environmental personnel create or review an environmental section in the specifications to ensure that all required actions are completed by the construction contractor.

b. Completion of DD Forms 1390/1391.

(1) Automated Army standard ranges and Military Operations on Urban Terrain Ranges that are programmed through the AMRP require programming document review by the MCX and the ATSC. Usually, NGB-ART-S will accomplish this review in conjunction with their preparation for the RTLP Prioritization Board in October of each year. Therefore, there is no requirement for NGB-ARI to send these programming documents to these two organizations.



(2) Because the NGB proponent for ranges is NGB-ART-S, NGB-ARI need only send the range programming documents to NGB-ART-S for validation and to NGB-ARE for information. NGB-ART will validate the DD Forms 1390/1391 and will provide comments regarding the range to NGB-ARI.

(3) Generally range DD Forms 1390/1 do not contain appropriately developed surface danger zones (SDZ). However, if they do, NGB-ARI can send these along with the DD Forms 1390/1 to NGB-ART-S and they will staff the SDZ with NGB-AVS.

(4) DD Forms 1390/1391 for Army Standard Ranges that require targetry must have a detailed list of targetry elements in the DD Form 1391c, in para 12b. NGB-ART-S will validate the targetry equipment via their reviews through ATSC and MCX. In addition to the targetry, there are a number of other elements that are slightly different for a range.

(5) Examples of range DD Forms 1390/1391 can be obtained from NGB-ARI-RM or NGB-ART-S. Examples for some ranges are currently posted on GKO website in the Installations Division in the DD Forms 1390/1391 repository.

c. Scoping and Planning Collaboration Meeting (Charette). In conjunction with the generation of the DD Forms 1390/1 and the site selection, the State would be well advised to conduct scoping and planning collaboration meetings (charettes), particularly for the more complex ranges. Correctly executed, these efforts produce solid range site plan and a project programming document, and they facilitate a design and a completed project that meets user needs and is within the estimated cost in the FYDP. This scoping and planning collaboration meeting should occur during the generation of the DD Forms 1390/1391. This effort is completed in advance of design. NGB-ART-S, in coordination with HQDA, is establishing how they will address these charettes.

d. SDZ. An SDZ is the ground and airspace designated within the training complex (to include associated safety areas) for vertical and lateral containment of projectiles, fragments, debris, and components resulting from the firing, launching, or detonation of weapon systems to include ammunition, explosives, and demolition explosives. In very simple terms, it is the volume in which a fired round will be statistically contained. The diagram of this area must accurately depict this space and must show that the projectiles, fragments, debris and components will not impact an inhabited area or proceed past the installation boundaries.

(1) Instructions for the construction of an SDZ are contained in DA Pam 385-63 and in NG Pam 415-5, para 6-5h. If the State has a baffled range, it shall comply with NG Pam 415-5, para 6-5h(4), and utilize Picatinny Arsenal to conduct ricochet analysis.

(2) Range control personnel on the training center are ordinarily very skilled at generating SDZs. GIS is a tremendous asset when generating these (e.g., ARC MAP). Nonetheless, final responsibility in the State lies with the State Safety Officer.

(3) SDZ review can be conducted as early as during the DD Forms 1390/1391 submittal. Or, the SDZ can be submitted with the conceptual design. If the designer generates the SDZ, the State should verify that that the SDZ is correctly constructed prior to sending the design to the NGB for review. The State (or designer) should develop the SDZ at no less than a 1:50,000 scale and submit a copy of this SDZ to NGB-ARI-CO (to their FME) for review and verification by NGB-AVS. Once NGB-AVS verifies the SDZ, they will send a memo to this effect to NGB-ARI-CO. The State should receive a copy of this verification and place it in the project file. SDZ for MOUT facilities and Gunnery Ranges are inherently complex. Therefore, States may want to schedule a time with NGB-AVS to review these SDZs to make sure they are correct. A State may not proceed beyond conceptual design without a preliminary NGB-AVS approval of the SDZ.

e. Contracting for A/E Services. One option for A/E services is to contract through the Corps of Engineers, Huntsville Division. At an average management cost of less than 2%, the MCX will manage the design contract. The MCX has a multiple Task Order Contract with four design firms. You look at information from the four firms, select a firm, and Huntsville does the rest of the contracting piece. One advantage to this method is the ease of obligation of your funding (as a simple MIPR is all that is required). Please note that this may not be a viable method for ranges to be constructed on State land if your Attorney General will not allow you to use Federal contracting procedures. Another option is to work through your State contract management office and solicit for A/E Services.

f. Design.

(1) In accordance with AR 350-19, all range designs must be reviewed by MCX and ATSC. To ensure that the States comply with this requirement, FMEs shall ensure that States send a copy of each design to NGB-ARI, NGB-ART (with a copy of the SDZ for NGB-AVS), ATSC, and MCX. When the FMEs receive the submittals, they will e-mail NGB-ART, ATSC, and MCX to establish a suspense for their comments. NGB-ARI will require a copy of MCX and ATSC comments or a memorandum indicating that either or both have no comments.

(2) To ensure that designers are completely aware of their requirements to provide these copies and so that the time required for these reviews is incorporated into the design schedule, States should include the following information in each design contract for a range.

(a) That the designer will be required to become familiar with the design requirements for the range they are designing. This includes, but is not limited to information from the MCX website, the training range project checklists for the inspections to be conducted during construction, and other information provided by NGB or the State regarding range design and construction.

(b) That the A/E will be required to submit three to four additional copies of project designs throughout the design review process. These additional copies will be for ATSC, MCX, NGB-ART and NGB-AVS. (The State should determine whether the designer will send these design documents directly to these organizations or whether the designer will provide these submittals to the State to send. If the State determines that the A/E will send them directly, then the A/E will need to provide transmittal correspondence to all affected parties indicating to whom they sent the review sets.

(c) The review process by ATSC, MCX and NGB-ART will take 3 to 4 weeks. The State must incorporate this period for design review into the design timeline for each design phase of the project in addition to review times already required by the State and NGB-ARI. Additionally, the cost to produce (and send (if indicated) these copies should be included in the design contract.

(3) The key reference is HNDM 1110-1-23, "USACOE Design Manual for Remoted Target System (RETS) Ranges." Although it is under revision, you can access a good bit of the standard design information on the MCX Huntsville Corps of Engineers RTLP site, <http://www.hnd.usace.army.mil/rdg/InterTemplate.aspx>.

(4) Because MCX is updating HNDM 1110-1-23, be sure to check documents like the interim interface standards to make sure that you have the most current information, particularly important for range electrical and telecommunications guidance. The interface standards take precedence over other information until a revised HNDM 1110-1-23 is published. You might check with Mr. Bill Stephenson, 256-895-1534, to see if there are more current standards than those otherwise available.

g. Construction. During the construction of a range there are three important meetings (two of which are required) that involve the State, NGB, MCX and ATSC. Failure by the State to conduct the required meetings can result in ATSC recommending that targetry not be installed at the affected range. In addition to the construction contractor, the A/E firm hired to provide Title II (Type C services) must also attend.

(1) The first meeting is a preconstruction meeting to ensure that the contractor understands how critical the targetry interface items are. Although probably required by the contracting method used to construct the range, it is not required for attendance by ATSC and the MCX. Although a coordinated meeting is optional, it is highly desirable, especially for large and complicated ranges. This meeting sets the tone for contractor compliance with the construction contract, particularly strict adherence to the target interface items and supporting elements. It is an excellent opportunity to expose the contractor to the range construction and targetry installation process. It aids tremendously in partnering through construction and target installation. The preconstruction meeting may be conducted on site (preferred), or at an alternate location. It can be conducted in coordination with the normal project preconstruction meeting.

(2) The second meeting is a construction compliance inspection (CCI). This required inspection is conducted when certain critical interface items are complete. These items include one target emplacement for each type of targetry (i.e. Stationary Infantry, Moving Infantry, etc), the CJB at the tower, etc. These inspections generally take about four hours and should be conducted on site. MCX has generated a complete list of requirements for this inspection. For complex ranges (particularly Tank and Bradley ranges), it is not uncommon for there to be more than one CCI. The rule of thumb is that if the range is a gunnery range, the State should plan to do two CCIs during construction.

(3) The final meeting is a Target Interface Inspection (TII). This inspection is conducted when all targetry interface items are complete and generally takes at least a day. It is not uncommon for them to take more than a day for complex ranges. MCX has generated a complete list of requirements for this inspection.

(4) To ensure that the contractor is aware of range-unique requirements and has accounted for their conduct in their bid, the following language should be added as a special provision to the construction contract.

"This project will result in the construction of a weapons range. When it is complete, centrally funded and acquired targetry will be installed on this range. To accommodate this installation of targetry, there are certain requirements during the construction of this range. The Contractor will be required to participate in a preconstruction meeting for this facility. A portion of this meeting will address the target interface requirements included in the construction contract. Two Army Agencies will attend this meeting and will

emphasize the critical nature of the target interface items. If there is any discrepancy between information provided by either of these two agencies and the project contractual documents, the issue will be referred to the Contracting Officer for resolution. Generally about 1/3 of the way through the construction, the contractor will have completed at least one target emplacement of each type (i.e....one Stationary Infantry Target, Moving Infantry Target, etc...) and the power control junction box in the control tower. Once these items are within about 3 – 4 weeks of completion, the State will notify the National Guard Bureau to schedule a Construction Compliance Inspection. The focus of this inspection is to make sure that the items constructed thus far are in compliance with the Target Interface requirements. Again if there is any discrepancy between information provided by either of these two agencies and the project contractual documents, the issue will be referred to the Contracting Officer for resolution. When the project is about 4 weeks from completion of all of the Target Interface items (i.e....all the target emplacements, all target related electrical requirements in the tower), the State will notify the National Guard Bureau to schedule a Target Interface Inspection. The focus of this inspection is to make sure that all of the Target Interface items are complete. There will probably be two additional agencies at this inspection. The first agency is the government agency that acts as the contracting agent for the targetry. The other agency will be the targetry installer. As with the other two meetings, if there is any discrepancy between information provided by either of these two agencies and the project contractual documents, the issue will be referred to the Contracting Officer for resolution. “

Appendix D  
Sample TAG Narrative



STATE OF VERMONT  
OFFICE OF THE ADJUTANT GENERAL  
789 VT NATIONAL GUARD RD  
COLCHESTER, VERMONT  
05446-3099

VT-TAG

7 June 2005

ATTN: NGB-ARI, 111 South George Mason Drive, Arlington, VA 22204-1382

SUBJECT: Annual TAG Narrative for Real Property Development Plan

1. Reference paragraph 2-3a, NGR 210-20 (DRAFT).

2. **General.** The readiness of any military organization depends largely on the quality and quantity of its training facilities and real property. Well-maintained and capable facilities enable soldiers to work and train effectively and efficiently while attracting new recruits and creating a positive relationship with the community. The Vermont Army National Guard must do all it can to acquire and maintain its mission-essential facilities. Wherever and whenever possible we will create joint force facilities and training areas. Accomplishing this task requires a long-range strategy and plan reflecting and adapting to the new unit missions and force structure of the Vermont Army National Guard.

3. **VISION.** My vision is "ISR Green Facilities for Green Mountain Boys." We will rehabilitate existing facilities that are less than twenty-five years old. New facilities will be built to replace existing facilities that are over fifty years old, and consolidate operations whenever possible. We will either use the old facilities for other purposes or dispose of them in accordance with state and/or federal laws. The Vermont Army National Guard is committed to providing state-of-the-art installations and training sites from which to deploy our forces and take care of their families.

4. **GOALS AND OBJECTIVES.** The primary long-range, real property objective for the Vermont Army National Guard is to provide operations and training facilities that adequately support unit requirements and maintain mission readiness. Our goal is to maintain sites with sufficient land areas, good access, and proximity to major highways and training areas that have adequate infrastructure to support our existing facilities and provide the capability for expansion to accommodate new and changing missions.

5. **PRIORITIES.**

Listed below are my priorities for long range construction within the Vermont Army National Guard.

**1.) Green Mountain Armory Addition:**

This project will allow us to consolidate old and antiquated facilities and relocate units to the Ethan Allen Air Force Base – Camp Johnson training area. By accomplishing this, we will allow the units to be housed in newer, more energy efficient facilities that will meet current guidelines for Anti Terrorism and Force Protection. This project will replace the Gosse Court Armory in Burlington, VT (48 years old) and the Winooski Armory in Winooski, VT (50 years old) and bring the units and functions to Camp Johnson. It will replace “red” facilities on the Installation Status Report (ISR). This project will provide newer, state of the art simulations and training areas for the units to be relocated and keeps in line with my vision.

**2.) Urban Assault Course:**

This project will enhance the ability of our soldiers to fight on the modern battlefield. It will provide much needed training capabilities and it will support MODULARITY for the Army National Guard. The 86<sup>th</sup> BDE is scheduled to become an Infantry Brigade Combat Team (BCT) and this project supports that requirement.

6. **SUMMARY.** The Vermont Army National Guard’s real property objectives address the investments needed to adequately support the inventory necessary for the Guard’s future. We will provide facilities that support justified unit requirements and maintain mission readiness. When resources are limited, we will consolidate readiness centers and organizational maintenance shops where appropriate to take advantage of economies of scale in the construction, renovation, and maintenance of facilities. These guidelines will help ensure that we achieve our vision of “Green Facilities for Green Mountain Boys.”



MARTHA T. RAINVILLE  
Major General, Vermont National Guard  
The Adjutant General

**Appendix E  
Sample TAB**

TABULATION OF EXISTING AND REQUIRED FACILITIES  
(TAB at a given installation)

FCG	DESCRIPTION	UM	PERM	PLN CONS	SEMI	TEMP	TOTAL ASSETS	ALLOW	REQMT	TOTAL ASSETS MINUS REQMT
F60000	ADMIN FACS	SF	10	0	0	31	41	1	1	40
F71100	FAM HSG DWELL	SF	0	0	0	45	45	45	45	0
F7110F	FAM HSG FAMS	FA	0	0	0	33	33	33	33	0
F7110P	OFF POST HSG	FA	0	0	0	33	33	0	0	33
F72010	ARMY LODGING	SF	0	0	0	7	7	7	7	0
F7201P	ARMY LODGING SP	PN	0	0	0	43	43	43	43	0
F72100	UPH, ENL FACS	SF	0	0	0	0	0	3	3	-3
F7210P	UPH, ENL SPACES	SP	0	0	0	0	0	9	9	-9
F72114	AT/MOB BARRACKS	SF	0	0	0	192	192	227	227	-35
F7211P	AT/MOB SPACES	SP	0	0	0	1258	1258	1891	1891	-633
F72121	UPH, ENL AIT	SF	0	0	0	0	0	0	0	0
F72122	UPH, ENL AST	SF	0	0	0	0	0	0	0	0
F7213P	UPH, ENL AIT SP	SP	0	0	0	0	0	0	0	0
F7214P	UPH, ENL AST SP	SP	0	0	0	0	0	0	0	0
F72170	UPH SR NCO FACS	SF	0	0	0	0	0	0	0	0
F7217P	UPH SR NCO SP	SP	0	0	0	0	0	1	1	-1
F72181	BT BARRACKS	SF	0	0	0	0	0	0	0	0
F7218P	BT SPACES	SP	0	0	0	0	0	0	0	0
F72200	UPH DINING FACS	SF	1	0	0	50	51	44	44	7

Note – only a few FCGs are shown for this TAB sample. Two columns are also not shown.

**Appendix F**  
**Sample LRCP and OMNG Work Plan**

**LRCP REPORT: NC**

<u>Project#</u>	<u>Name</u>	<u>Location</u>	<u>City</u>	<u>Type</u>	<u>Priority</u>	<u>Est Fed Share</u>	<u>Est State Share</u>
370099A	READINESS CENTER	MARION	MARION	UMI	1	385,000.00	
370084A	BARRACKS	MTA CAMP BUTNER	BUTNER	MILCON	1	14,451,300.00	0.00
370085A	AASF	SALISBURY	SALISBURY	UMI	2	1,490,000.00	
370087A	READINESS CENTER	N. WILKESBORO	N. WILKESBORO	MILCON	2	3,570,000.00	1,210,000.00
370094A	READINESS CENTER	SILER CITY	SILER CITY	UMI	3	668,700.00	222,900.00
370088A	READINESS CENTER	WILLIAMSTON	WILLIAMSTON	MILCON	3	1,906,425.00	635,475.00
370100A	AASF	SALISBURY	SALISBURY	UMI	4	345,000.00	
370065A	OMS	NG NEW HANOVER	WILMINGTON	MILCON	4	4,224,000.00	0.00
370101A	READINESS CENTER	CLYDE	CLYDE	UMI	5	1,160,000.00	
370049A	ADD/ALT, CSMS	RALEIGH	RALEIGH	MILCON	5	18,030,000.00	0.00
370091A	READINESS CENTER	TARBORO	TARBORO	UMI	5	1,124,250.00	374,750.00
370096A	AASF	MORRISVILLE	MORRISVILLE	UMI	6	139,400.00	
370089A	MATES	TS FORT BRAGG	FAYETTEVILLE	MILCON	6	6,336,750.00	
370061A	OMS	RED SPRINGS	RED SPRINGS	UMI	7	1,499,000.00	0.00
370034A	READINESS CENTER	LEXINGTON	LEXINGTON	MILCON	7	1,888,575.00	629,525.00
370093A	READINESS CENTER	LINCOLNTON	LINCOLNTON	UMI	7	844,275.00	281,425.00
370062A	OMS	YOUNGSVILLE	YOUNGSVILLE	UMI	8	1,490,000.00	0.00
370092A	AASF	SALISBURY	SALISBURY	MILCON	8	6,876,090.00	
370095A	READINESS CENTER	GREENSBORO	GREENSBORO	MILCON	9	2,951,190.00	819,775.00
370102A	READINESS CENTER	OXFORD	OXFORD	UMI	9	658,000.00	
370086A	AASF	MORRISVILLE	MORRISVILLE	UMI	9	1,170,972.00	
370103A	READINESS CENTER	NEW BERN	NEW BERN	UMI	10	826,000.00	
370058A	READINESS CENTER	DURHAM	DURHAM	MILCON	10	2,874,300.00	958,100.00

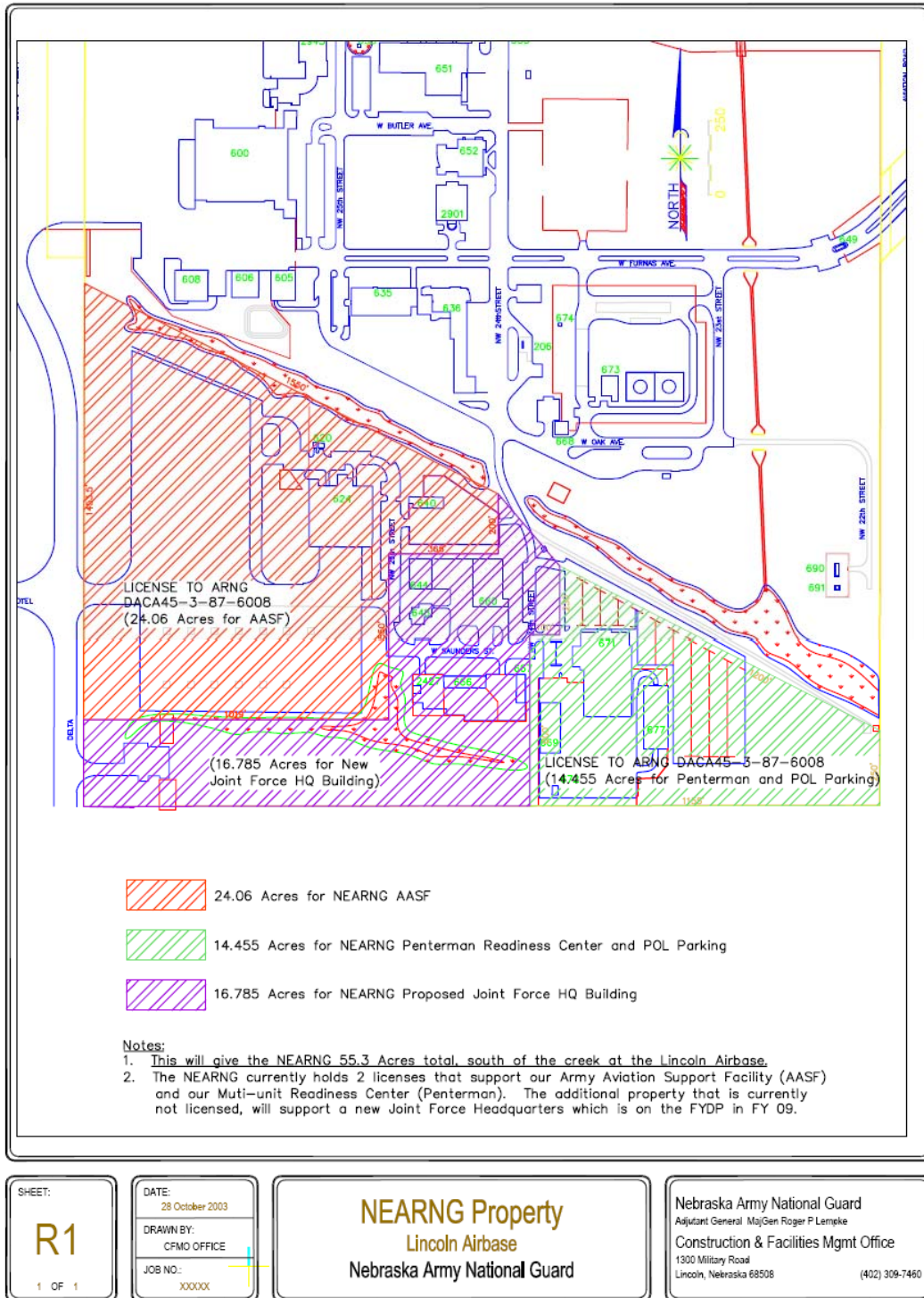
OMNG Work Plan

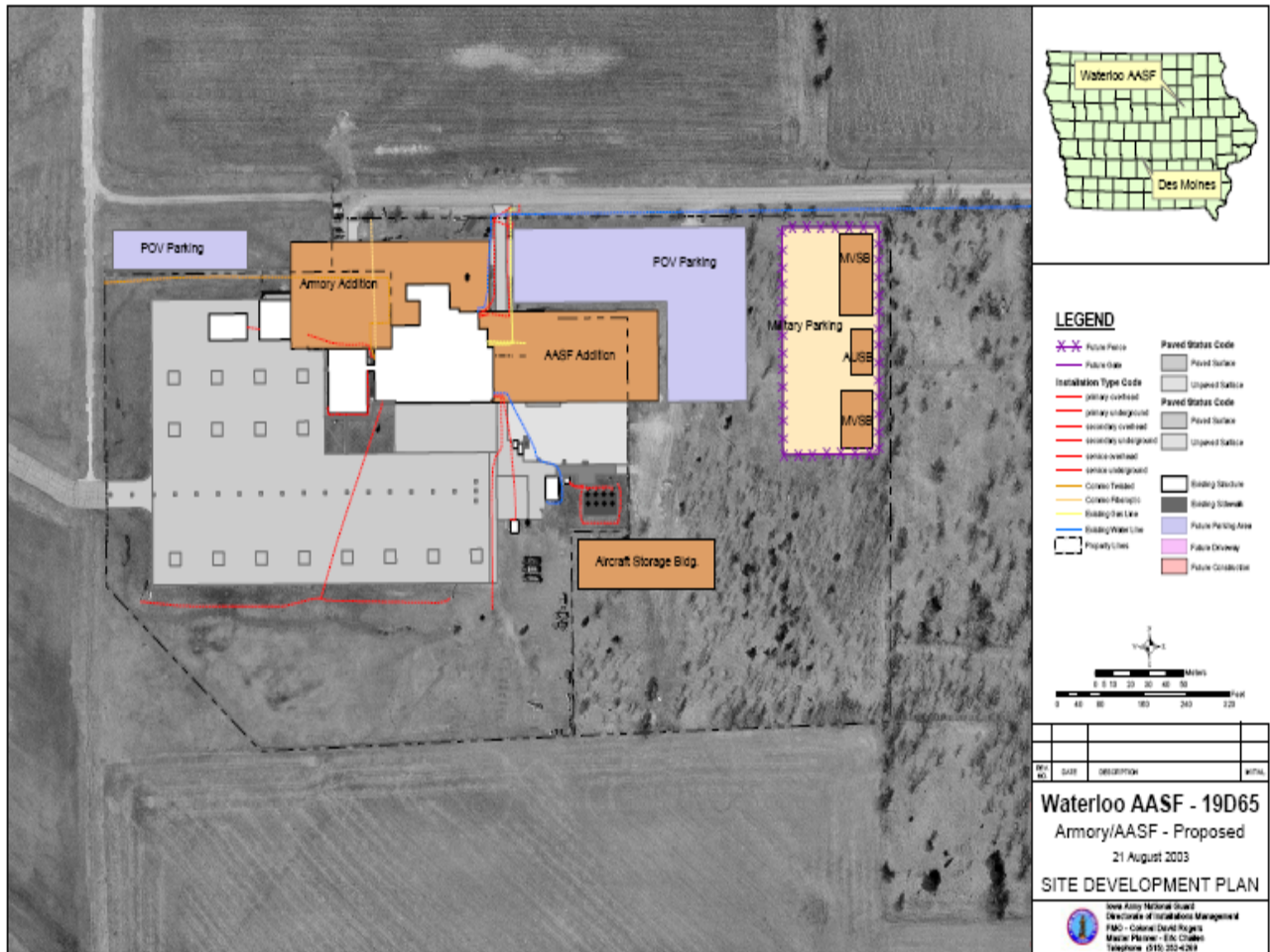
Funding	FACNO	PROJECT #	WO #	LOCATION	PROJECT DESCRIPTION	FMO-D POC	EST BID DATE	Fed Estimate	State Estimate	REMARKS
State LS		05805	67692	Rosemount	Alleviate flooding in SCIF - abate mold	Dennis	awarded		\$150k	
State			98593	Rosemount	Water infiltration/mech room				\$60k	
ENV			88460		Cult & Nat Res Intern			\$14k		
ENV			87829		A-Endangered Species Protection Monitoring			\$100k		
ENV			?		Haz Waste Intern					
ENV			98832		C-Solid Waste Permits and Fees			\$52.4k		
ITAM			various		F-LCTA Field Crew					
ITAM			94080		K-CR Water Trend Analysis					
ITAM			87060		J-AHATS Grassland Restoration					
ITAM					B-Area Protection, Cr (Invasive Species)					
Energy				CR	MATES Lighting upgrade (RTSM and CSMS)		Bob J w/NGB	\$50K		
Energy				CR	11-1 TACC Lighting Upgrade		Bob J w/NGB	\$50K		
Energy				CR	RTSM - lighting upgrade/clerestory windows		Bob J w/NGB	\$200K		
Energy				CR	CSMS Lighting Upgrade		Bob J w/NGB	\$50K		
SRM - non DPWS D	1		90190	CR	BLDG 10-145 REROOF		PO	\$12K		
SRM - non DPWS D	2		90191	CR	BLDG 10-146 REROOF		PO	\$12K		



**Appendix G  
Sample Site Plan**

Two samples in different formats are provided. Either would be acceptable.





**Appendix H**  
**RPLANS Requirements Edit Handbook**

**H-1. Purpose**

This handbook is provided to assist the ARNG State Master Planner perform RPLANS requirements edits efficiently.

**H-2. Contents**

- Introduction
- Priorities by FCG for edits in ARNG and brief rationale
- Guidance on how to justify RPLANS requirements edits
- Small readiness centers policy
- Ground vehicle maintenance facilities algorithm
- Support facilities on ARNG training centers
- Youth Challenge facilities
- Editing RPLANS on Army enclaves

- i. Common errors indicated in a typical ARNG RPLANS TAB
- j. FCG where RPLANS allowance equal RPI assets

### H-3. Introduction

a. For the ARNG, RPLANS will calculate facilities allowances for three types of installations: the State (-), any of the 57 designated ARNG major training centers, and any of the 50 designated Army enclaves. States will identify in PRIDE which sites comprise each of the specific installations in their State, Territory or District of Columbia. There are exactly 54 States (-), allowing one each. However each State or Territory can have zero or any number of major training centers and enclaves.

b. RPLANS calculates an allowance for each FCG based on an Army approved algorithm and assumptions and on ASIP population/ Unit Identification Code (UIC). If an ARNG particular unit and installation match the Army assumptions, then RPLANS should calculate an allowance approximately equal to the approved requirement. However, when there are exceptions to criteria or NGB authorizations different from Army authorizations, you will have to edit the allowance and document the true requirement.

c. RPLANS will display any facility assets greater than the required amount as excess. These RPLANS excesses are either truly excess to installation/site needs or should be edited to reflect an approved requirement. As the Army pursues disposal of excess and obsolete facilities, the Army will be scanning your RPLANS data for a general sense of the type and amounts of excess facility types. Individual facilities that are excess are identified in PRIDE via the Facility Activation Status Code. Facilities coded with an Agreement Support Code of NO because they are truly excess to requirements, should show up in RPLANS as excess. Do not try to eliminate this excess unless you actually demolish the facility.

### H-4. Priorities by FCG for edits in ARNG and brief rationale

a. Readiness centers. This is the top priority, because it is the largest ARNG FCG. Readiness centers with a large number of administrative positions normally need to be edited to a higher requirement. The ARNG is short over 17 million square feet of readiness center space. If your State is excess overall, you need to figure out why. See para H-6 for a possible reason.

b. Aviation maintenance facilities. This is next, because RPLANS is using a different hangar maintenance factor than the ARNG uses and therefore States should edit these facilities to establish the NGB-recognized size.

c. General administrative facilities. This FCG is authorized for part of the JFHQ and part of the USPFO. However, most of the JFHQ space should be coded as 17142, ARNG/USAR Center.

d. General instruction building. This FCG is important, because the ARNG has lots of classrooms in PRIDE but not many validated requirements. Each Regional Training Institute (RTI) should generate classroom requirements.

e. Ground maintenance facilities. This is no longer a priority, because the algorithm was changed from allowances equals assets. See para H-7.

f. Transient training facilities. This FCG includes annual training barracks, other quarters, unit headquarters buildings, dining facilities, and training center unit supply rooms and maintenance facilities. This is no longer a priority, because RPLANS calculates allowances for these FCG based on the TROUPERS data provided in ASIP. If that data is reliable, the allowances are generally reasonable. See para H-8.

### H-5. Guidance on how to justify RPLANS edits

This is the guidance for how to justify RPLANS requirements edits so they will be approved at NGB and accepted by ACSIM.

a. All RPLANS requirements edits need written justification. Because NG Pam 415-12 forms the basis for most ARNG facility authorizations, there is no need to cite it. Only cite a reference if it is other than that. Approved exceptions to criteria form the basis for most of the remaining edited amounts and should be referenced. NGB does not require RPLANS Installation Reason Codes or Unit Reason Codes.

b. The edited requirement value (the numbers) may come from an approved or draft DD Forms 1390/1391. The justification (the words) should provide enough information as a stand-alone paragraph for NGB to validate the edited requirement independently from the DD Forms 1390/1391. Specific guidance for justifying various types of facilities follows.

c. When NG Pam 415-12 or a DD Forms 1390/1391 based on NG Pam 415-12 are the source for the requirement, the following input parameters must be documented in the justification. These are the same input parameters that you used (or would have used) to calculate your requirement. Chapter numbers refer to NG Pam 415-12.

(1) Readiness centers (chapter 2). Provide the number of personnel supported and a list of units supported. Also provide the number of administrative personnel and an estimate of the unheated storage requirement (if equipment to be stored exceeds 4,000 cubic feet for any unit). Note that if the authorized strength is less than 55 persons and the TAG has approved a continuing requirement, NGB will approve an edited amount up to the size of the existing readiness center. Justification should state the number of authorized and that there is a continuing requirement. See para H-6.

(2) Logistics facilities (chapter 3).

(a) USPFO facilities. Enter the number of workers as defined by NG Pam 415-12, para 3-3a(2).

(b) Surface maintenance facilities. List if the facility has a field or sustainment maintenance mission, and whether it is a Field Maintenance Shop (FMS), Unit Training Equipment Site (UTES), Maneuver and Training Equipment Site (MATES), or Combined Support Maintenance Shop (CSMS). You should also provide the number of mechanics working in bays and the total number of bays you based your requirement on. You are permitted to use an approved or draft DD Forms 1390/1391 to determine gross areas if it is based on current data and standards, but you still must at least document the number of mechanics working in bays (higher of required or authorized), the total number of personnel, and the total bays in the justification paragraph.

(3) Aviation facilities (chapter 4). List the types and numbers of aircraft supported and whether this is an Aviation Unite Maintenance (AVUM) or Aviation Intermediate Maintenance (AVIM) mission. Use the higher of total on-hand or total authorized aircraft.

(4) Training Center Facilities (chapter 5). List the training center classification from NGR 5-3 (e.g., MTC, CTC), which drives the type and number of cantonment facilities in NG Pam 415-5, Table 5-1. Also provide the G-3 requirement for how many companies, battalions and brigades represent the designed training load. For billeting, provide the percentage by type (enlisted, non-commissioned officers, commissioned officers) for FCG being edited. Note that RPLANS calculates an allowance based on ASIP training population, not NG Pam 415-12. All training center support facilities not authorized in chapter 5 are considered an exception to criteria. See para H-5e below for exceptions to criteria.

(5) Education Facilities (RTI) (chapter 6). List the maximum number of students authorized at any one time and the number of authorized staff.

d. If there is an existing DA Forms 1390/1391 (draft or approved) that establishes the requirement and that represents the total amount of the FCG for that UIC/site code you can make that available and cite the project number in the justification. (For example, write "See DA Forms 1390/1391 project #XXXXX.") There is no need to create a DD Forms 1390/1391 simply for RPLANS justification purposes, but if you have one please make it available.

e. Exception to criteria. If requirements are based on an exception to criteria, please cite the date approved and the authority in the RPLANS justification.

f. RTLP. If the requirement for ranges is established in the RTLP, cite the RTLP title (i.e., state-wide or a specific training center) and the date the RTLP was approved at NGB.

#### **H-6. Small Readiness Centers Policy**

a. NG Pam 415-12 establishes construction requirements for new readiness centers. Where the supported strength is less than 55 persons, there is no construction requirement. RPLANS is the Army standard for requirements, and it calculates a construction allowance consistent with NG Pam 415-12. Therefore, it establishes a zero allowance unless ASIP required strength at a location reaches 55 persons.

b. If the authorized strength of assigned units at a given Readiness Center is less than 55 persons and the TAG has approved a continuing requirement, NGB will recognize a valid requirement up to the size of the existing readiness center. Justification should state the number of authorized persons and that the TAG has established a continuing requirement. These edits are important because otherwise RPLANS will calculate an allowance to build of zero, which is consistent with NG Pam 415-12.

c. States are authorized to edit their F17180 requirement in RPLANS up to the size of the existing Readiness Center if the location (i.e., site code) meets all of the criteria below.

(1) ASIP strength is greater than 20 persons required (except for Alaska Scout RC where there is no minimum).

(2) There is an existing readiness center facility with a regular drilling population.

(3) The State RPDP documents a continuing readiness center requirement at this location for at least the next seven years.

d. The facility requirement established by this policy is not a basis or justification for new construction or replacement of existing facilities.

e. The following justification statement must be included in RPLANS: “Supports an ASIP requirement of (insert ASIP strength) in year (enter year) and State projects a continuing readiness center requirement at this location for at least the next 7 years.”

**H-7. Ground Vehicle Maintenance Facilities Algorithm**

a. The ground vehicle maintenance facilities algorithm is based on an ASIP population that represents the authorized strength of full time maintenance personnel for that facility. If the ASIP is reporting authorized strength, RPLANS would calculate an allowance approximately equal to what is authorized. If the ASIP is reporting funded strength, than the RPLANS allowance would be smaller than truly authorized.

b. If the RPLANS allowance is less than authorized by NG Pam 415-12 because the ASIP is reporting only the funded strength, than you should check whether the RPLANS allowance is zero or nonzero. If zero, it is because the ASIP strength does not meet the minimum threshold for two bays. You should edit to the NG Pam 415-12 authorized requirement. If the allowance is nonzero, than the recommended fix is not to edit the requirement and allow the lower requirement to stand. ACSIM is developing a policy on what the ASIP value should be for full time support units like ground vehicle maintenance facilities.

**H-8. Support Facilities on ARNG Training Centers**

a. NG Pam 415-12, chapter 5, authorizes transient training housing and a few installation support facilities based on the NGR 5-3 type of training center. NGB will approve an amount of transient training housing only up to the number required to support the design load for actual training.

b. Installation support facilities are approved the same as any other exception to criteria.

**H-9. Youth Challenge Facilities**

a. NG Pam 415-12 does not specify a requirement to support Youth Challenge programs. Therefore RPLANS does not calculate an allowance for them.

b. Any facility requirements in support of Youth Challenge are an exception to criteria. Justification for such facilities should cite the Youth Challenge program requirement for the State and the maximum number of youths being supported at one time.

**H-10. Editing RPLANS on Army Enclaves**

a. RPLANS will calculate facility allowances for all Army enclaves. You must edit and justify the requirements on enclaves just as you would on a training center.

b. RPLANS will identify the facility allowances on Army enclaves based on any ARNG units located there plus any transient training population identified in the ASIP for whom the ARNG is required to provide facilities. If there is no ARNG requirement to provide the transient training facilities, simply edit the requirement to zero and state that the host installation is providing these facilities. If the ARNG does provide the facilities, follow editing guidance for training centers.

c. The units stationed on enclaves and the transient training population also will generate a requirement for the host installation. This is not a duplication but recognizes that all the requirements that the ARNG provides also become part of an installation requirement. Therefore you should coordinate your edits with the host installation RPLANS.

**H-11. Common Errors Indicated in A Typical ARNG RPLANS TAB.**

Status	FCG	FCG Name	UM	Recommendation
RPLANS shows NGB excess	F17119	ORG CLASSROOM	SF	Edit rqmts based on RTI and TASS validated reqmt per NG PAM 415-12
RPLANS shows NGB excess	F17120	GEN INST BLDGS	SF	Edit rqmts based on RTI and TASS validated reqmt per NG PAM 415-12
RPLANS shows NGB excess	F17131-- 17138	APPLIED INST, GEN	SF	Need NGB authority for applied instructional facilities as exception to criteria
RPLANS shows overage and underage	F17142 F17180	READINESS CENTERS	SF	RPLANS edits should address overage and underage and small armories
RPLANS shows NGB excess	F21110	ACFT MAINT FACS	SF	RPLANS using lower maint factor, States need to do RPLANS edits

Status	FCG	FCG Name	UM	Recommendation
RPLANS shows NGB excess	F21410	VEH MAINT SHOPS	SF	No longer authorized at MTA, use F21406. Generally these have the incorrect catcodes
RPLANS shows NGB excess	F21885 F21900	DOL & INST VEHICLE MAINT	SF	Must calculate reqmt as exception to criteria
RPLANS generally shows NGB excess for storage	F42200 F43200 F44210 F44222 F44224 F44228 F44230 F44262	STORAGE	SF	Storage FCGs show excess; if you have it-figure out whether it is excess or you can justify a reqmt; then either dispose of excess or edit and justify validated reqmts.
RPLANS shows NGB excess	F60000	ADMIN FACS	SF	USPFO is authorized admin facilities; most of the other authorizations are exception to criteria; determine what is required
RPLANS shows NGB excess	F72XXX	UPH, ENL BARRACKS	SF	NGB shows tremendous excess; figure out the requirement and do the edits; use the proper barracks catcodes/FCG
RPLANS shows NGB excess	F72200	UPH DINING FACS	SF	Dining facilities may be authorized for certain training centers and RTIs
RPLANS shows NGB excess	F74028	FITNESS FACS	SF	Need to justify any facilities in this FCG
RPLANS shows NGB excess	F85210 F85215	ORG & NON-ORG PARKING	SY	NGB is short in great quantities of org parking indicating that you should edit down the requirement to reflect only the requirement for equipment parked at home station and edit up by a similar amount of org parking at the location where the equipment is truly parked.
<b>In addition to the above, common errors specific to ARNG Training Centers</b>				
RPLANS shows MTC excess	F14110	AIRFIELD OP BLDG	SF	Verify RPI accuracy and compare with Avn Unit Opns shortages
RPLANS shows MTC Shortage	F14112	AVN UNIT OPNS BLDG	SF	Verify RPI accuracy and compare with Airfield Opns Bldg excess
RPLANS shows MTC shortage	F21885	DOL VEHICLE MAINT	SF	Must calculate reqmt as exception to criteria
RPLANS shows MTC excess	F21900	INST VEHICLE MAINT	SF	Must calculate reqmt as exception to criteria
RPLANS shows MTC excess	F85210	ORG PARKING	SY	Org parking requirement is based on equipment parked there; RPLANS is calculating the requirement at the ASIP unit location; edit home station down and parking location upwards to reflect the requirement at the actual location of the equipment to be parked.
RPLANS shows MTC Shortage	F85215	NON-ORG PARKING	SY	Recalculate requirement based on NG PAM 415-12 for 50 SY per FTS and 25% of billeting capacity.

FCG	DESCRIPTION	UM	FCG	DESCRIPTION	UM
+ F12300	VEH FUEL FACS	OL	+ F31060	MED RES LABS	SF
+ F13115	INFO SYS FACS	SF	+ F31100	ACFT RDT&E FACS	SF
+ F13131	INFO PROC CTR	SF	+ F31200	MSL/SPACE RDT&E	SF
+ F13135	PHOTO LAB	SF	+ F31400	T/A RDT&E FACS	SF
+ F13185	PRINT PLANT	SF	+ F31500	WPN RDT&E FACS	SF
+ F13300	NAV AIDS BD AIR	SF	+ F31600	AMMO RDT&E FACS	SF
+ F13310	FLT CONT TOWER	SF	+ F31700	C-E RDT&E FACS	SF
+ F14114	CIDC FACS	SF	+ F31800	PROP RDT&E FACS	SF
+ F14115	WEATHER STATION	SF	+ F31900	MISC RDT&E FACS	SF
+ F14116	FORENSIC LAB	SF	+ F32100	TECH SVC RDT&E	SF
+ F14133	STOR SPT FACS	SF	+ F37100	RNG BLDGS RDT&E	SF
+ F14161	EOC/SCIF FACS	SF	+ F39000	RDT&E FACS NB	EA
+ F14169	PROD PLT SPT FAC	SF	+ F39069	RDT&E RANGES	AC
+ F14170	PROD PLT SPT ST	SF	+ F39080	RDT&E RG FACS	EA
+ F14310	OPS BLDG, SHIP	SF	+ F41100	BULK FUEL STOR	BL
+ F15100	PIERS	SY	+ F41170	LUBRICANT STR	BL
+ F15200	WHARVES	SY	+ F42100	DEPOT AMMO STOR	SF
+ F15500	SM CRAFT BERTH	FB	+ F42288	AMMO STR OTHER	SF
+ F17125	PE TRAINING BLDG	SF	+ F43100	DEPOT COLD STR	SF
+ F17200	SIMULATOR FACS	SF	+ F44100	ENCL STR DEPOT	SF
+ F17730	IMPACT AREA DUD	AC	+ F44130	HUM CNT STR DEP	SF
+ F17731	AREAS NON-DUD	AC	+ F44135	HAZ STOR DEPOT	SF
+ F17852	MORTAR RANGES	FP	+ F44180	CVRD STOR DEPOT	SF
+ F17856	ARTY INDIRECT	FP	+ F44215	OXY/ACETYL STR	SF
+ F17857	MLRS RANGES	FP	+ F44223	ARMS STORAGE-BN	SF
+ F21140	AC ENG TST FAC	SF	+ F44288	INST STR OTHER	SF
+ F21141	AC ENG TST STRU	SF	+ F53020	MEDICAL LABS	SF
+ F21210	MSL MNT, DEPOT	SF	+ F53025	PHARMACY	SF
+ F21310	SHP MAINT FACS	SF	+ F53030	MORGUES	SF
+ F21320	MARINE RAILWAY	SF	+ F53040	VETERINARY FACS	SF
+ F21330	SHIP REP SHOP	SF	+ F53060	MED WAREHOUSES	SF
+ F21335	SHIP REP FAC	SF	+ F53070	AMBULANCE SHLTR	SF
+ F21340	FIXED CRANE	SF	+ F53080	FISHER HOUSES	SF
+ F21440	DEP MNT/REB SHP	SF	+ F62000	UNGD ADMIN FACS	SF
+ F21500	DEP WPN MNT SHP	SF	+ F72010	ARMY LODGING	SF
+ F21512	WEAP DEMIL DEP	SF	+ F7201P	ARMY LODGING SP	SP
+ F21540	SP WEAP DEPOT	SF	+ F72360	DET MISC FACS	SF
+ F21545	WPNS REPAIR FAC	SF	+ F73010	FIRE/RESCUE FAC	SF
+ F21600	DEP AMMO MNT	SF	+ F73015	CONFINEMENT FAC	SF
+ F21632	AMMO DEMO/MNT	SF	+ F73016	POLICE/MP STA	SF
+ F21670	AMMO REP INST	SF	+ F73028	DRUG COUNSL FAC	SF
+ F21700	C-E REP SHP DEP	SF	+ F73030	LNDRY/DRYCL FAC	SF
+ F21800	DOL MAINT	SF	+ F73046	DEPENDENT SCHL	SF
+ F21840	RR EQ/EN MAINT	SF	+ F74012	EATING FACS	SF
+ F21881	ABN EQ/PARA REP	SF	+ F74020	MIL CLOTH SALE	SF
+ F22100	ACFT PROD FACS	SF	+ F74054	EXCH SPT FACS	SF
+ F22200	MSL PROD FACS	SF	+ F74055	EXCH WAREHOUSE	SF
+ F22400	T/A PROD FACS	SF	+ F74059	EXCH CAR WASH	SF
+ F22500	WPN PROD FACS	SF	+ F74072	INDOR SWIM POOL	SF
+ F22600	AMMO PROD FAC	SF	+ F74078	THRIFT SHOPS	SF
+ F22685	AMMO PROD STRUC	SF	+ F75018	PLAYGROUND GP	EA
+ F22800	MISC PROD FACS	SF	+ F75027	RUNNING TRACK	EA
+ F22900	INST SPT PROD	EA	+ F75040	GOLF COURSES	EA
+ F22960	INS SPT PROD BD	SF	+ F81100	ELEC PWR SOURCE	KV
+ F31000	RDT&E LABS	SF	+ F81150	STANDBY PWR	KV

Figure H-1. FCGs where RPLANS Allowance equal RPI Assets

FCG	DESCRIPTION	UM
+ F81200	POWER LINES	LF
+ F81230	EXT LIGHTING	LF
+ F81242	UNG ELECT LINES	LF
+ F81300	SUBSTATION	KV
+ F81350	ELECT SW STAT	KV
+ F81360	TRANSFORMERS	KV
+ F82100	HEAT SOURCE	MB
+ F82200	HEAT LINES	LF
+ F82400	GAS TRANS LINES	LF
+ F82600	REFRIG/A-C FACS	TN
+ F82710	CHIL WTR LINES	LF
+ F83110	WST WTR TRT PRI	KG
+ F83112	WST WTR TRT SEC	KG
+ F83113	WST WTR TRT ADV	KG
+ F83140	WST TRT INDUSTR	KG
+ F83200	SEW/WST LINES	LF
+ F84110	WATER TRT FACS	KG
+ F84125	FILTER PLANT	KG
+ F84130	WTR SOURCE-POT	KG
+ F84150	CHLORINATOR	KG
+ F84200	WTR LINES - POT	LF
+ F84300	FIR PROT LNS-NP	LF
+ F84410	WTR SOURCE - NP	KG
+ F84450	CHLORINATOR NP	KG
+ F84500	WTR LINES - NP	LF
+ F84600	WTR STOR - POT	GA
+ F84620	RESERVOIR POT	GA
+ F84700	WTR STOR - NP	GA
+ F84720	RESERVOIR NP	GA
+ F84730	FIRE PROT POND	GA
+ F84740	WAT RETAIN BAS	GA
+ F85100	ROADS SURFACED	SY
+ F85120	VEHICLE BRIDGES	SY
+ F85218	NONORG PK MLTLV	SY
+ F85710	TA RDS SURFACED	SY
+ F85720	TA TNK TR SURFA	SY
+ F85730	TNG AREA BRIDGE	SY
+ F86000	TRACKS RAILROAD	MI

**Figure H-1. FCGs where RPLANS Allowance  
equal RPI Assets -- Continued**



## **Appendix I Programming Charette**

### **I-1. General**

a. A programming charette is an essential tool in accurately scoping a MCNG projects. In addition, these charettes facilitate open communication between users. This is the perfect opportunity to provide the Adjutant General's facility planning intent so that it can be incorporated into the charette process by CFMO personnel and other members of the State staff to accurately capture project requirements and user needs.

b. A programming charette is used to define the scope and estimated cost of MCNG projects and has proven to be invaluable in garnering a mutually agreed-to scope among the user, proponent, and authorizing elements at both the State and NGB. Proper scoping is essential to MCNG execution because it results in an appropriate programming document which produces an accurate cost estimate for the FYDP.

c. Successful completion of the programming charette will enable you to have approved DD Forms 1390/1391 to obtain design funds from NGB-ARI as soon as they can issue these funds (1 October two fiscal years before the FYDP year of the project) The NGB-approved DD Forms 1390/1391 will allow the State to generate the MCCA for the MCNG project. The charette will also provide a description of the proposed action which is required to initiate environmental documentation. All of these products will allow you to meet the milestones required for timely and successful execution of your MCNG project.

### **I-2. Charette Objectives**

a. Provide mission and infrastructure information, to include all unit, manning, and equipment, and site documentation (including existing geo-technical data), necessary to accurately scope and cost the MCNG requirement and any supporting items funded from the procurement and operations and maintenance appropriations.

b. Allow key players, to include the command group and senior leadership, to review any preliminary MCNG project programming information and provide information, to include unusual requirements affecting project costs, which will be utilized to generate an accurate programming document.

c. Document the scoping process, to include decisions made during the programming charette, which must include recommendations on phasing if the revised cost exceeds what is currently in the FYDP and which must include a coordination sheet signed by all the key players.

d. Produce valid and complete DD Forms 1390/1391 for the project, to include a parametric cost estimate, a decision on whether or not to utilize design-build, signed exceptions to criteria from the NGB proponent, and copies of the unit, manning, and equipment. documents used to scope the project.

e. Identify potential opportunities, challenges and issues surrounding AT/FP, required facility reduction (i.e., disposal of square footage equal to what is being constructed), and sustainable design (i.e., achieving a LEED rating of Silver), provide an order of magnitude analysis of the impact of these items on project costs, and initiate the LEED checklist.

f. Prepare a summary of the A-E assumptions used to cost each of the components of the project.

g. Produce a rudimentary concept design (e.g., hand-sketched single line drawings), to include bubble diagrams that show the relationship of all functional areas and planning analysis drawings that show site conditions and restrictions and provide options on locating facilities and utilizing the project site.

h. Produce a document that all stakeholders must sign approving the project description and scope.

### **I-3. Scoping Meeting**

Before the actual conduct of a charette, the State will conduct a scoping meeting with the selected A/E firm to review the statement of work, to include the deliverables and visit the proposed site to identify known critical issues. The purpose of this scoping meeting is to provide the selected A/E firm information they need to provide an accurate cost proposal.

### **I-4. Kick-Off Meeting**

Once the charette contract is awarded, the State should conduct a kick-off meeting to introduce key players/stakeholders, initiate data gathering, and plan for the actual charette. You must ensure the attendance or immediate availability of key personnel critical to the overall planning process. These personnel include, but are not necessarily limited to, the NGB proponent for the project, representatives from all building users, senior members of the command group, the State project proponent (on the JFHQ staff), your environmental staff, physical and electronic security personnel, safety and occupational health representatives, information technology representatives (from the J-6), your State's force structure officer, other representatives from State staff sections that will have to

fund equipment for the project, your own planning and programming staff, your USPFO, and any other key contracting, oversight, and regulatory personnel. A detailed listing of these people will be established during the kickoff meeting.

**I-5. SOW**

A sample SOW to initiate the charette process might look like the sample, refer to Figure I-1. Samples of previously executed statements of work and finished products are available via the NGB-ARI web page in GKO.

Statement of Work  
 Contract No. \*\*\*\*\*  
 Delivery Order No. \*\*\*\*\*  
 For Project Planning Document Charette (PPDC)  
 Any State Army National Guard (\*\*ARNG)  
 Project Title  
 Project Location

**PART I GENERAL REQUIREMENTS:**

A. **Responsibility:** The Architect/Engineer (A/E) shall furnish sufficient technical, supervisory, and administrative personnel to ensure the expeditious accomplishment of the work specified in this Statement of Work (SOW) Additionally, the A/E shall furnish all services, materials, supplies, equipment, investigations, studies, and travel required in connection with this SOW.

B. **Direction:** The A/E shall accept direction only from (NAME)

C. **Coordination:** In performance of the work, the A/E shall provide the following:

1. **Meeting/Phone Records:** The A/E shall prepare a written record of each site visit, meeting, or conference, either telephonic or in person, and shall furnish this record within five working days to the COR with copies to all parties involved. The written record will include the subject, the names of participants, an outline of discussion, and recommendations or conclusions reached.

2. **Annotating Review Comments:** After submittal of the draft PPDC package, the A/E will be furnished review comments from the various reviewers and concerned agencies involved in the review process. If the A/E disagrees technically with any comment and does not intend to comply with it, he shall clearly outline, with ample justification, the reasons for noncompliance prior to conduct of the comment review meeting. The A/E shall furnish the disposition of all comments in writing. The disposition will clearly indicate the specific actions to be taken in response to each comment. Merely stating “concur” or “will comply” is not considered an adequate indication of actions taken. The A/E will be required to submit the final PPDC package incorporating any accepted review comments. Subsequent stages of design are not a requirement in the scope of this task order.

3. **Needs List:** The A/E shall furnish to the Contracting Officer, with copies furnished to all parties involved, a “needs list”. This list will:

a. Itemize in an orderly fashion, planning/design data required by the A/E to advance the work in a timely manner.

b. Include a description of the action item, name of the individual or agency responsible for satisfying the action item, and remarks as appropriate.

c. Be maintained on a continuous basis with satisfied action items checked off and new action items added as required.

**Figure I-1. Sample Charette SOW**

d. Initially be submitted to the COR with an information copy to the Contracting Officer for items, criteria, or topics of discussion desired to be gathered or addressed during the PPDC.

D. **Dissemination of Information:** The A/E shall furnish copies of all instructions, manuals, and other documents pertaining to planning and design requirements to all consultants (if any) to insure a completely coordinated PPDC document.

E. **Site Information:** The A/E shall be provided with copies of existing \*\*ARNG site survey/topographic drawings and a photographic aerial survey overlays no later than \_\_\_\_\_.

## **PART II PROJECT SPECIFIC REQUIREMENTS:**

A. **Project Description:** The project consists of conducting and preparing a Project Planning Document Charette (PPDC) including a parametric cost estimate. The A/E shall prepare the PPDC documents to confirm the project scope and associated project cost for the projects described below. The projects will be in accordance with the criteria listed in this document and any additional requirements outlined during conduct of the PPDC process. Additional items known and/or determined to exist as proposed exceptions to criteria will be addressed/validated during the conduct of the PPDC.

The entire project effort for this PPDC consists of a (Insert project title) at (insert project location)

(Insert a concise description of the MCNG project)

B. **Scope and Cost Limitations:** The purpose of this PPDC is to:

1. Establish a complete PPDC document, to include revised DD Forms 1390/1391, for the MCNG project.
2. The DD Forms 1390/1391s for the (insert project title)in FY(insert project program year) dollars.

3. Scope limitations will be established during the course of the Land use controls (LUC) The total programmed cost (DD Forms 1390/1391 cost) will include construction contingency costs, SIOH costs, and costs for design during construction as required by the \*\*ARNG.

C. **Criteria:**

1. **Project Criteria:** The project will be designed in accordance with the following criteria. Other project specific and National Guard criteria shall be acquired and used during the conduct of the PPDC process.

- a. Unified Facilities Criteria (UFC) 4-010-01 "DOD Minimum Antiterrorism Standards for Buildings".
- b. NG Pam 415-12, Army National Guard Facilities Allowances, 23 July 2003.
- c. NGR 415-5, Army National Guard Military Construction Program Development and Execution, 18 July 2003.
- d. NG Pam 415-5, Army National Guard Military Construction Program Execution, 31 July 2003.
- e. TC 25-8, Training Ranges (including updates), 25 February 1992.

2. **Installation Criteria:** The A/E shall acquire and use this information during the conduct of the PPDC process.

3. **Cost Estimating Criteria:** The detailed parametric cost estimate format may be completed in the A/E's standard format. Information in the detailed cost estimate shall be used by the A/E to prepare the revised DD Forms 1390/1391s. The cost estimate format shall support the data requirements of the \*\*ARNG.

### **Figure I-1. Sample Charette SOW-- Continued**

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**D. Planning and Submittal Requirements:**

1. This task order will be a single planning phase – Project Planning Document Charette (PPDC) The PPDC process shall be used to gather criteria, information, and decisions to develop to program for the specified project. The A/E shall conduct the PPDC at (insert location, date, and time) The PPDC shall be a multi-disciplined approach to define the project. The intent of the Charette is to gather/confirm scope requirements and criteria. At the conclusion of the Charette, the A/E shall perform an out briefing presenting information gathered and decisions made during the Charette, and any additional required decisions.

2. The A/E shall coordinate for a suitable meeting facility for the PPDC. (This element depends on the situation for each PPDC)

3. A/E attendees at the Charette shall include at a minimum: 1 Project Manager, 2 Architects, 2 Civil/Site Engineers, and 1 Planner/Programmers w/DD Forms 1390/1391 experience. (This is an example of attendance that may be appropriate for the project. The actual attendance requirement may vary from this list as required to meet the MCNG project requirements)

4. The A/E shall submit a formal PPDC package incorporating project documentation described below:

a. Narrative: The A/E shall provide narrative describing the work to be accomplished for the project. The narrative shall address the Charette findings and program changes and address findings related to project goals, civil/site analysis (including anticipated geotechnical), functional relationships of the various building types and their placement on the site, architectural (facility requirements including personnel and equipment), all structural, mechanical, electrical, sustainable engineering, utilities, environmental issues, AT/FP and information systems. The narrative, including the needs assessment, shall outline the minimum and specific requirements of design, construction materials and codes, and customer needs and expectations determined during the PPDC process. Identify and address any unusual requirements (i.e. known soil conditions, special foundations, physical security, local requirements, special considerations, etc) that will significantly influence the cost.

b. Plans and Sketches: The A/E shall provide planning analysis drawings and associated photographs, showing existing site conditions, natural features, drainage, land use to include possible expansion, incorporation of future projects, site access and circulation, site utilities to include points of connection, and site restrictions sufficiently detailed for the preparation of the parametric cost estimate. Plans shall include macro-level relationship diagrams showing the relationships of the various functional facilities as master plan concepts. Various diagrammatic arrangements/options will explore different approaches to utilizing the site. The A/E shall prepare diagrammatic facility plans based on site and functional analysis based on the diagrammatic arrangements. Various site utilization schemes will be developed using basic building block-type shapes. These will use the gross area(s) of the facility components (approximately to scale), to explore macro-level site layout concepts/options and facility configurations. The building blocks utilized will not show internal layouts or features such as corridors and individual functional areas.

c. Parametric Cost Estimate: The A/E shall prepare a detailed parametric cost estimate for each project to be included as an appendix to each of the PPDC documents. The descriptive narrative shall be the basis for the cost estimate; however, the cost estimate shall include a list of estimate assumptions. The cost estimate appendix shall also include a discussion of potential risks that may affect the project cost.

d. Revised DD Forms 1390/1391: The A/E shall prepare revised DD Forms 1390/1391 for each project, including any approved/requested exceptions to criteria. The narrative, plan and applicable cost estimate shall support the revised DD Forms 1390/1391s. For the primary facilities, the revised DD Forms 1390/1391 shall be supported by the A/E prepared parametric cost estimate. The parametric cost estimate will also support the requirements of the supporting facilities. The revised DD Forms 1390/1391s shall be included as separate appendix to the narrative document for each

**Figure I-1. Sample Charette SOW-- Continued**

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project. The A/E shall prepare a program matrix for each project indicating program requirements in the original DD Form 1390/91's, changes in the revised DD Forms 1390/1391s, differences between the two, and supporting justification comments related to any differences.

e. Meeting Minutes: The A/E shall incorporate all written meeting records in an appendix to the PPDC document.

f. Supporting Documentation: The A/E shall provide any documents not listed above used to support the findings and conclusions in the PPDC.

E. Submittal Requirements: The A/E shall provide the following submittals for review by the \*\*ARNG and Contracting Officer: Preliminary PPDC Document Submittal and Final PPDC Document Submittal. Electronic versions shall be in PDF format, written on CD for distribution.

F. Submittal Schedule: The following schedule shall be adhered to after award of the task order.

Needs List Status (check by telecom)	(Date)
<b><u>PPDC Document</u></b>	
Preliminary PPDC Document Submittal, including the revised DD Forms 1390/1391 and cost estimate.	(Date)
Final PPDC Document Submittal.	(Date)

The delivery dates specified above are delivery dates to all addressees. The A/E shall plan his work to permit mailing by routine mail service; however, one-day mail services shall be used whenever necessary to meet the above schedule.

G. Contract Completion: Since the A/E may be required to furnish advice subsequent to the final submittal, all work and services to be performed under this Task Order will be completed no later than (insert date)

H. List of Attachments:

**Figure I-1. Sample Charette SOW-- Continued**

**Appendix J  
Geographic Information System (GIS) as a Master Planning Tool**

**J-1. General**

a. Purpose of the Appendix

- (1) Provides a process for beginning and expert GIS users to follow when assembling master planning products for the ARNG.
- (2) References data standards, that when used by all State and Territory master planners, will produce consistent master planning products across the entire ARNG.
- (3) Discusses possible GIS data sources that contain useful data for assembling ARNG master planning products.
- (4) Establishes potential GIS analysis and output requirements for ARNG master planning.

b. Definition of GIS

(1) GIS is a system of computer software, hardware and data, and personnel to help manipulate, analyze and present information that is tied to a spatial location. GIS visually depicts the installation (e.g. the natural, cultural, and infrastructure characteristics of an installation and its surrounding area) and its management activities.

(2) Situational awareness of the installation is critical in supporting the ARNG master planning efforts. ARNG installation management, transformation initiatives, base realignment and closure, homeland security, mission support, and increasing encroachment on installation operations mandate that the ARNG has access to the best possible information about our installations and their surroundings. Geospatial information, including digital

representations of installation facilities, road networks, building footprints, as-builts, environmental resources and constraints, imagery, ranges and training lands, and surrounding areas, is utilized by installations and higher headquarters to ensure that our facilities are master planned to adequately support future mission needs.

(3) GIS is a tool for the collection, display and analysis, query and mapping of spatial data to support the decision making process. GIS can integrate information from disparate sources, providing master planners with a more complete picture of ARNG facilities and installations.

c. Role of GIS in Master Planning

(1) Site Selection. GIS is used to locate new, or assess the viability of existing, installations/facilities through the spatial analysis of site location factors (e.g., environmental, demographic, land use compatibility, transportation, etc)

(2) Real Property Development. GIS is the principle tool for creating site plans and site development plans that depict installation facilities, land uses, future development, encroachments, and environmental constraints.

(3) Inventory of real property. The processes of building and maintaining a GIS can facilitate the accurate update of the RPI, which is critical to maintaining an accurate TAB.

## J-2. Data Requirements

a. General. The capability and functionality of a GIS hinge upon having accurate and current data. The GIS user must have access to the correct spatial and non-spatial data, as required by analysis tasks. Data must be accurate, up to date, and properly formatted. Because analysis results are dependent upon the quality of the input data, a high quality geo-spatial database is the foundation upon which a successful GIS system operates. Additionally, the development and maintenance of geo-spatial data typically represent the largest GIS cost expenditure (as measured in contracting costs and/or in-house man hours). A full understanding of geo-spatial data requirements is critical to successful GIS implementation and, in turn, to the related real property master planning analysis processes.

b. Data Quality

(1) Development of high quality data is achieved through the careful selection of data sources, combined with a well planned collection process, and through the adoption and adherence with applicable standards. Currently, Army GIS standards are expressed in DAIM-ZA memorandum, dated 20 Apr 2005 Subject: Data Standards for Geographic Information System (GIS) and Computer Aided Drafting and Design (CADD). Additionally, HQDA and NGB staff are working to develop and implement more complete data definition/quality assurance plans that tie various standards and analysis requirements within a single document. Data quality is affected by spatial accuracy, temporal accuracy, data standards and meta-data documentation.

(2) Spatial accuracy ensures that the location of GIS features vary within acceptable tolerances from their actual, real world location. A decision to collect data at a given accuracy level or tolerance should be based upon an assessment of the analysis tasks for which that data layer will be used with the development/collection cost. Collecting highly accurate data is more expensive relative to less accurate data, however, the more accurate the data the more uses or applications to which that data can be applied. For example, high accuracy data may be used for less demanding tasks, but serious problems will arise if low quality data is employed for tasks that require a high accuracy.

(3) Funding issues may require the master planner to: collect more generalized data across a large number of sites to enable basic planning analysis; collect very accurate data over smaller area; or collect data at fewer locations to support projects of particular importance. The following saying applies to coordinate accuracy “accurate, fast, cheap; pick two out of three.” For additional information on how coordinate accuracy is reported and for recommended tolerances and mapping scales for common facility management tasks, reference EM 1110-1-2909, Engineering and Design, Geospatial Data and Systems, Chapter 11. You can find a copy at: <http://www.usace.army.mil/inet/usace-docs/eng-manuals/em1110-1-2909/toc.htm>.

(4) Temporal accuracy refers to the status of features within a GIS layer/theme. The frequency by which a given data layer is updated will depend upon its criticality to the analysis task for which the data was collected and by the rate at which the entity changes on the landscape. For example, soils change over a long time frame (thousands of years) Thus, given an initially accurate soil survey, there is very little need to update or refresh these data. However, a GIS layer representing the foot print of a proposed MCNG project will frequently change based upon the latest planning requirements/analyses.

(5) Data standards dictate the schema for a given GIS data layer and must conform to the DoD Spatial Data Standards for Facilities, Infrastructure and Environment (SDSFIE) <https://tsc.wes.army.mil/products/TSSDS-TSFMS/tssds/html/>. The adherence to a common standard reduces costly redundancies by ensuring that data can be easily shared across organizational lines, and by allowing data created by different individuals and organizations to

be integrated into enterprise systems. Utilization of a common standard facilitates the development of common analysis procedures, software tools, and applications.

(6) Meta-Data documentation means recording “data about data”. The Army requires that all GIS and CADD data be documented with Federal Geographic Data Committee (FGDC) geo-spatial meta-data (<http://www.fgdc.gov/metadata/metadata.html>) The FGDC meta-data standard allows for the documentation of source(s), point of contact, status, condition, accuracy, etc., of a geo-spatial dataset. Meta-data documentation provides the necessary information to correctly use a given GIS data set (e.g., “the data’s fitness of use”). Without meta-data documentation, other users (especially users outside of your organization) will not be able to effectively employ your data. In this sense, meta-data protects and enhances the value of your geo-spatial database.

c. State/Territory Level Data Sources

(1) State level data can be defined as that data developed to impart knowledge of specific aspects of each individual State. This data will provide information to assist the master planner in performing site selection and may include regional (neighboring States) and Federal agency sources. Data developed internally must meet Satellite Data System (SDS) format.

(2) There are many different “State” sites listed (e.g., Transportation Departments, Health Departments). There are also Federal agencies listed under each State. The following layers should be common to all States:

**Theme-Statewide**

County Boundaries

Geopolitical

Congressional Districts

State Boundary

Transportation

Zip code Boundaries

Demographics

Hospital

Infrastructure

Easements

Cities

d. Site Level Data Sources. Site level data can be defined as geospatial data that is specific to a site. In the ARNG master planning context, site level data depicts the extent of land on a site, existing facilities on a site, as well as development constraints and opportunities on and adjacent to a site. Several sources and methods are available for the collection of this kind of data.

(1) A certain amount of the site specific data needed for master planning may already exist. Many local governments create geospatial data for their own management activities. Often times this data is made freely available to other government agencies and the public for non-profit use. Contacting local government agencies may save considerable time and money when developing site level data for master planning. The data types listed below may be available at the local government level for use in ARNG master planning.

(a) Aerial Imagery. County and city engineering and property departments often maintain high resolution digital aerial imagery for property and infrastructure management.

(b) Infrastructure. County and city engineering departments often maintain geospatial data for transportation features and public utilities.

(c) Topography. County and city engineering departments often maintain geospatial data for terrain and hydrological features.

(d) Political. County and city planning and property departments often maintain geospatial data for planning purposes. This may include property parcels, zoning data, land use areas and political boundaries.

(e) Environmental – State and local environmental agencies often maintain geospatial data for environmental management. This can include contaminated areas and other points of environmental concern.

(2) Some site specific data needed for master planning may need to be created. This most commonly includes data for existing ARNG facilities on a site. Master planners can utilize in-house or contracted resources to collect and create this kind of data. Data development methods vary, but typically include either site surveys or remote sensing. Site surveys are time consuming. However, depending on the equipment used and the surveyor's attention to detail, site surveys can result in highly accurate data. The most common remote sensing method allows facility level data to be traced from an aerial image. This is often much faster than a site survey, but it does not have the potential to be as accurate. The site level data types listed below are considered common for master planning applications, regardless of the method used to create them.

- (a) Site Boundaries
  - (b) Parcel Boundaries
  - (c) Building Footprints
  - (d) Road Segments/Centerlines
  - (e) Bridges
  - (f) Parking Areas
  - (g) Runways/Helipads
  - (h) Sidewalks
  - (i) Pads
  - (j) Fences
  - (k) Gates
  - (l) Wash racks
  - (m) Spill Containment Structures
  - (n) Flagpoles
  - (o) Range Lanes/Targets/Firing Points
  - (p) Fuel Tanks/Pumps
  - (q) Utility Systems
  - (r) Elevation Contours
  - (s) Surface Danger Zones
  - (t) Accident Potential Zones
  - (u) Explosive Safety Quantity-Distance Arcs
  - (v) Environmental/Cultural Restrictions
- e. Non-Spatial Data Sources

(1) A GIS contains two fundamental data types: spatial data (i.e. information relating to the location of features) and non-spatial data (i.e. data that describes features). Non-spatial data is non-graphic textual data that exists in most enterprise databases. It can be linked to spatial data through an address or geo-code, which allows this non-spatial data to be viewed and analyzed through its location. It is widely quoted that up to 85% of data in most enterprise databases has a spatial dimension (i.e. it can be represented in a GIS). Therefore most data can be converted into spatial data.

(2) Non-spatial data is important to ARNG planners. A large amount of facility and installation data is stored in databases that can be linked to a GIS. This information includes ISR ratings, facility age, facility space shortfalls, installation acres, number of personnel, etc. There are many sources of non-spatial data available, and it is important to know what these sources are and how to access them.

(3) Non-spatial data sources that planners use include the following:

(a) ASIP is the official Army database of populations on Army installations worldwide. The ASIP is a baseline for installation planning that provides a consistent look at forces to be supported and provides visibility of potential planning issues. ASIP data is a basis for MCNG requirements, ISR data collection, and BOS requirements, and it is used by the Army staff as the database of record for installation demographics.

(b) The ISR is an important management tool for the ARNG States and installations and HQDA. It assesses the condition of installation infrastructure, environmental programs, and services using established Army-wide standards.

(c) PRIDE is the ARNG tool for management of real property assets. It is the official database of record for on-hand real property assets, including information on status, cost, area, capacity, condition, use, and management of real property.

(d) The Range Facility Management Support System (RFMSS) is an automated system used to schedule and track a training center's range and facility usage.



(e) RPLANS calculates an allowance for each FCG based on an Army approved algorithm and assumptions, and ASIP population/UIC. If an ARNG unit and installation match the Army assumptions, then RPLANS should calculate an allowance approximately equal to the approved requirement.

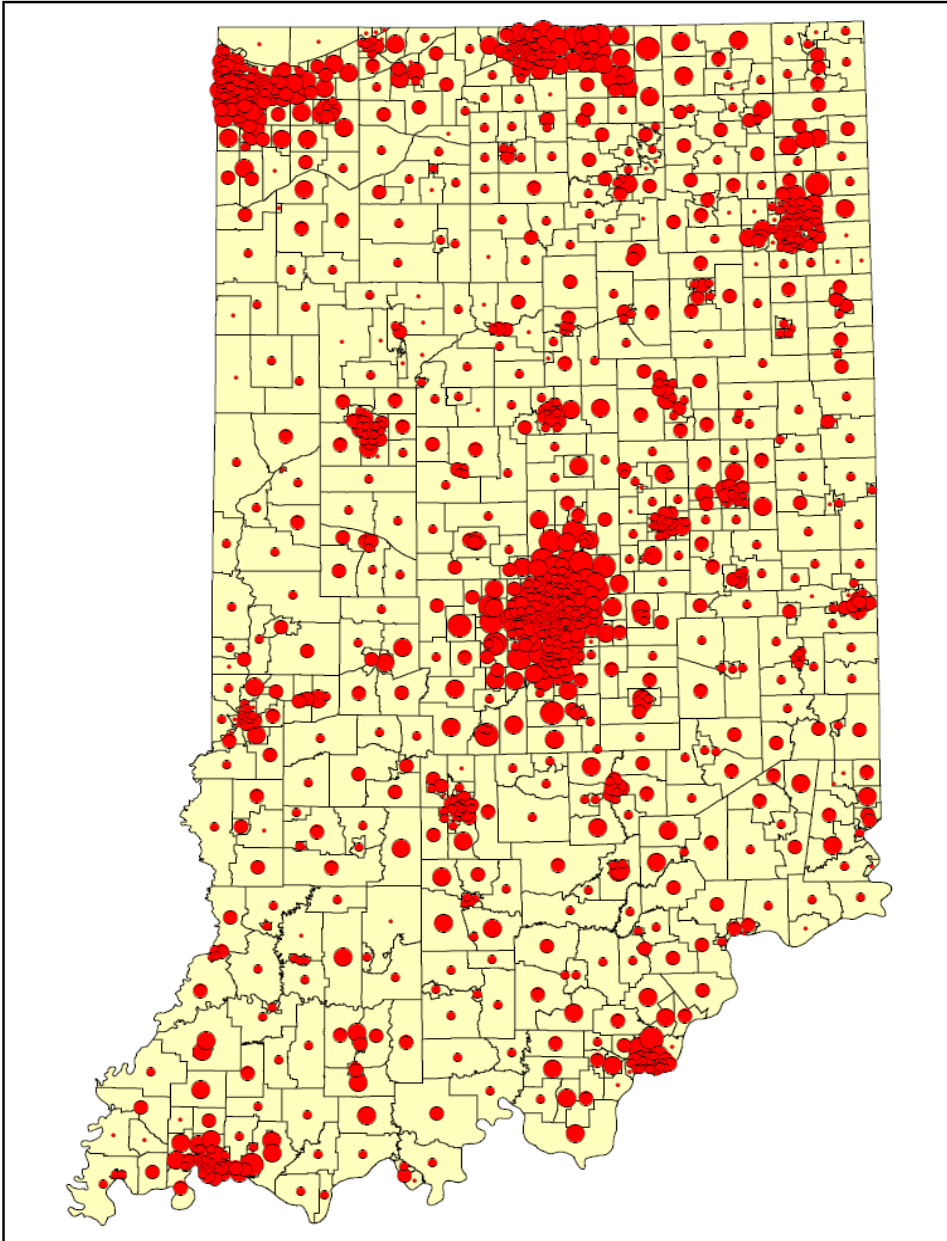
(4) Standard Installation/Division Personnel System (SIDPERS) is the Army standard automated soldier personnel information system operating at installation and major command level.

### **J-3. GIS Analysis for Master Planning**

- a. Analysis includes using the data sources mentioned in para I-2c through Ii-2e above to determine:
  - (1) Off-installation conditions that may affect present or future installation growth.
  - (2) Unconstrained areas on an installation and identify compatible land use opportunities.
  - (3) Facility Quality Analysis using ISR data, Analyze current situation Environmental & operational constraints, Organizations & functions, Population Allowances.
  - (4) Force Protection Analysis using setback requirements.
  - (5) Various other geographic data.
  - (6) Regional level data such as surrounding States unit locations can be used to identify potential customers of training sites when trying to locate facilities.
- b. Analysis Types:

(1) Site Selection. For example census data can be viewed thru GIS to locate population densities for locating readiness centers.

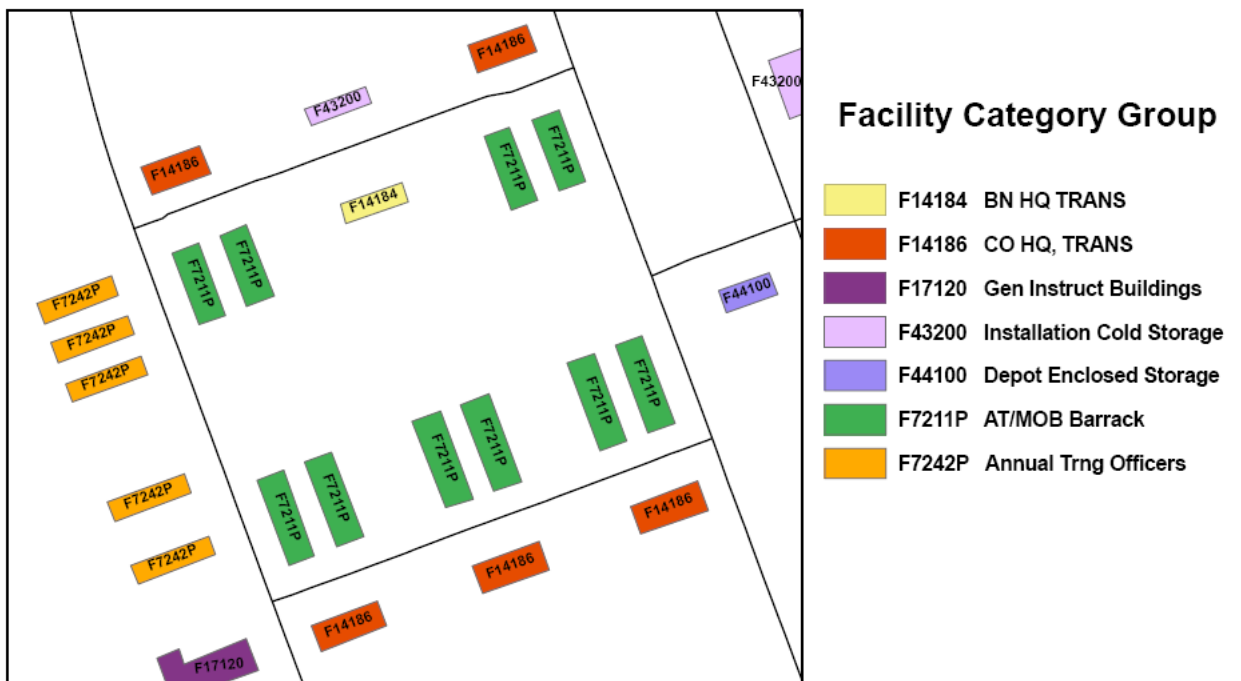
### Total Population of Ages 18-34 Years Old



(2) Development Plans. For example, in developing an existing site to build a new ammo supply point, GIS will help show the explosive safety distance buffers.



(3) Real Property Inventory: For example, PRIDE data can be linked to show a graphical representation of the RPI.



c. The accuracy of data is very important in the development of GIS data. This is one of the main factors in determining how accurate an analysis can be obtained from the GIS data and the level of decision that can be based on that analysis. Accurate GIS data depends on the accuracy of data imported for the purpose of analysis and decision making. Data must be verified in order to be sure about the accuracy. It is necessary that the data conversion is tested and compared against the data sources, using prescribed accuracy standards.

**J-4. Product Requirements**

a. Spatial data are required to perform functions within real property master planning. Much of these data are created by other functional areas and accessed by the real property master planner. Data collected and/or created while doing real property master planning consist of data required across multiple functional areas and spatial data documenting the installation regional physiographic, demographic, and political setting. Typical spatial data themes supported by real property master planning are listed in AR 210-20, Appendix B.

b. Spatial data collected and/or created while doing real property master planning must adhere to common standards. Data must follow the Spatial Data Standards for Facilities, Infrastructure, and Environment and be documented with metadata according to Federal Geographic Data Committee standards and Executive Order (EO) 12906, as amended by EO 13286.

c. Spatial data and applications developed and used by the garrison master planner must be shared and integrated into an installation EGIS in accordance with Army guidance.

d. Spatial information access and capabilities are the core to performing master planning at all DA levels. Spatial information will be made available to installations for land use planning; management and installations will share all spatial data through the NGB to HQDA for regional and strategic planning.

**J-5. Master Planning Functions for Installation Enterprise GIS**

a. GIS Working Group. The Adjutant General will establish a GIS working group consisting of representatives from staff offices involved in the development and/or application of spatial data in the State. This working group is available to assist the real property master planner in the development and maintenance of maps, plans, and spatial data included in an RPMP.

b. Master Planning Datasets. Data collected and/or created by master planning consists of data required across multiple functional areas, plus spatial data documenting the State’s regional physiographic, demographic, and political setting. Additional specifications will be provided in following guidelines issued by ACSIM (DAIM-ZS). Figure J-1 below provides a representative list of GIS data themes and layers used in real property master planning. The list is not all inclusive.

<b>Data Theme</b>	<b>Description</b>	<b>Example Layers</b>
Imagery	Multi-spectral satellite or airborne Installation used for general imagery mapping and mapping of land use and land cover within 20 miles of installation boundary.	Landsat Thematic Mapper
		IKONOS (satellite)
		SPOT (satellite)
		Digital Ortho Photos
Demographics	Human populations and changes to these populations over time within 20 miles and all counties surrounding the installation.	Census Bureau and TIGER data sets.
		Land Use Change maps
		Population Change maps
Political	All political and jurisdictional data sets within 20 miles and all counties and States surrounding the installation	State and county boundaries
		Cities and towns
Land Use	All factors affecting current and future land use within 20 miles and all counties surrounding the installation	Zoning
		Land Ownership
		Property Lines
Physical Setting	Geography, Topography, Hydrology, Ecological setting of installation and surrounding area - within 50 miles and all counties surrounding the installation.	Geology
		Contours and Digital Elevation Maps
		Rivers, lakes, oceans
		Current and past land cover and land use

**Figure J-1. Typical Real Property Master Plan GIS Data Theme**

General Reference	Information and data required for common referencing and location of features on and surrounding the installation	Benchmarks
		Ground Control Points
		Reference Basemap
Critical Infrastructure	Features on and around the installation necessary for force protection and emergency response.	Medical/Hospitals
		Transportation/Roads
		Buildings
		Power/Energy
		Real Estate
		Utilities
		Police/Security

**Figure J-1. Typical Real Property Master Plan GIS Data Themes -- Continued**

**Appendix K**  
**Sample SOW for Training Center Master Plan**

**Statement of Work**  
**For The Real Property Master Plan for**  
**(Insert Project Title)**  
**(Insert Project Location)**

**1. STATEMENT OF WORK:** The services to be rendered by the Architect-Engineer (A-E) under this contract include those requirements to prepare a Master Plan for the (Insert State) Army National Guard (insert project title) at (insert location) The A-E shall provide a separate cost for the Environmental Assessment work included in this scope. The A-E shall update and provide the following:

- a. Analysis of Current Conditions Inventory, not physical condition) (to include facilities, utilities, unit mission (space) requirements, and adjacent activities)
- b. Coordination with the (State Military Department), users and adjacent users to orchestrate an optimal Master Plan that integrates concerns of these parties.
- c. Development of a site concept (to include utilities, site layout (three options), special requirements, phase for design and construction, and cost estimates. Provide orthographics for this element.
- d. Update the elements in the current RPDP section for the (insert location) facilities to include the TABulation of existing facilities vice requirements for the (Project title) and the Army.
- e. Generate an Architectural Theme Study to generate architectural input that is in concert with adjacent structures and the (project location) Installation Design Guidance. Provide orthographics for this element for one option to be analyzed after the initial Charette)
- f. Digitize all products included (in CAD or Office Programs as appropriate) above and provide digitized data to the owner.
- g. (Separate Line Item) Prepare an Environmental Assessment for the proposed (insert project title) construction.
- h. Compile all of these products into a single Master Plan binder for this project. These services are to be produced in accordance with AR 210-21, Aster Planning for Army Installations (31 August 1993), NGR 415-5 (Appendix L) Installation Master Plan Guidelines, and NGP 415-12 Army National Guard Facility Allowances.

**2. SERVICES TO BE RENDERED BY THE ARCHITECT-ENGINEER:** The A-E will furnish all labor and materials necessary to produce the elements listed above. The following provides amplification of these requirements. Analysis of current conditions will analyze the transformed mission to which the (PROJECT TITLE) is transitioning. The mission will be the maintenance and operation of 16 UH-60 aircraft and 7 Ch-47 aircraft. The A-E will work with DMVA, (PROJECT TITLE), Aviation , and adjacent landowner personnel to establish goals and objectives for the future development of the (PROJECT TITLE) complex. The A-E will describe the existing physical, social and built environments in which the (PROJECT TITLE) site exists including, but not limited to

utilities, transportation and land use. The A-E will utilize existing data as well as data developed from other sources which includes transportation studies, utility analysis, space utilization studies, Tabulation of Existing and Required Facilities, environmental studies and the COARNG RPDP. The A-E will be responsible for summarizing all data from all sources into the Master Plan. The following amplifies the elements above:

a. **Analysis of current site conditions.** The A-E shall update the existing plans to reflect current site conditions. These maps will be updated using available data provided by the Colorado Army National Guard (COARNG) The following elements will be included:

- (1.) Site Plan with Permit/License boundaries as recorded on AF Map
- (2.) Topographic Survey
- (3.) Soils Survey
- (4.) Utilities (Water (Domestic and Fire Protection), Sewer, Gas, Electric, and Telecom) to include capacity, condition, source, load, and any deficiencies in its plant or distribution system.
- (5.) Constraints overlay (on clear velum) identifying all constraints with use of parcel such as set backs, tower conflicts, etc...)

b. **Master Plan Development Charette.** During the development of the Master Plan (specifically the site plan) the A-E shall conduct a development charette. For this charette, the A-E shall provide a list of required facilities and scope, identification of critical inter functional relationships (i.e...flight operations and flight line), and 3 proposed site plans. Day one shall consist of an all day meeting with all users to develop a list of option pros and cons to enable the group to select one of the three options for further development. The group will break for 1 – 2 days and the A-E shall develop this option. The group shall reconvene for Day 2 of the charette to review the revised plan. The A-E shall brief how this concept meets the requirements. The group shall discuss any subsequent changes that need to be made to this option. Day 3 will only be required if no option is fully developed to meet the requirement. Deliverables subsequent to the charette for the selected option shall be:

- (1.) Cost Estimates (**Clarification:** Cost level of detail to be at DD Forms 1390/1391 level)
- (2.) Site Plan (Proposed)
- (3.) Utility Plans (Water (Domestic and Fire Protection), Sewer, Gas, Electric, and Telecom) (Proposed)
- (4.) Landscape Plan (Proposed)

**Kick-off meeting – Resolved goals to be presented to users. Gather additional information from Users. Very important to have all “players” at the Kick-off.**

**Charette products shall include a basic configuration of the building. (IE...Interior functional layout, Hangar Access and Flight Operations location, Out Buildings)**

c. **Update RPDP elements.** Provide an update of the RPDP section for the (project location) (PROJECT TITLE) (**Clarification:** Scope to include A/C Parking) to include the following items:

- (1.) Introduction
- (2.) Site Conditions
- (3.) Site Analysis
- (4.) Future Development Plan
- (5.) (PROJECT TITLE) Force structure analysis, existing facilities, facility requirements, and projects.

d. **TAB Update. Requirements Analysis -** This section will analyze facility category groups (FCG), which consist of broad groupings of individual facility category codes. It will identify facility requirements and deficiencies based on data developed from the Tabulation of Existing and Required Facilities. The requirements analysis section will only review those FCGs for which the (PROJECT TITLE) complex has facility requirements. The requirements analysis will contain an updated Tabulation of Existing and Required Facilities - A tabulation of existing and required facilities will be prepared by updating current TAB of Dec. 2001 and in an automated format. The TAB will record facility allowances, requirements, existing assets and balances (i.e., surplus or shortfall) The TAB will be prepared at the training site level by individual facility category code. This data will be aggregated by FCG per the example in the RPDP. **TAB Software -** The TAB forms (DA Forms 2369-1-R and 2369-2-R) will be

prepared using Microsoft Excel spreadsheet software to facilitate easy updating of the documents. TAB Forms and Reports - The following reports will be prepared as part of the TAB: (PROJECT TITLE) Complex Strengths/Population Data (DA Form 2369-1-R); (PROJECT TITLE) Complex Tabulation of Existing and Required Facilities (DA Form 2369-2-R); Unit Tabulation of Existing and Required Facilities for the (PROJECT TITLE) Complex. Information sources are:

(1) Training Site/Unit Strength and Population Data – The training site's planning strengths will be based on authorized strengths in the ASIP projected for the final year of the Program Objective Memorandum (POM) cycle. This data will be provided to the contractor by the COARNG point of contact prior to beginning work on the tabulation.

(2) Real Property Data - Real property and space utilization data will be obtained from the PRIDE Real Property files and databases. Digital copies of this data will be provided to the contractor by the COARNG point of contact prior to beginning work on the tabulation.

(3) Allowances - The TAB will be based on facility planning criteria contained in such sources as NGP 415-12, the Facility Planning System (FPS), Real Property Planning System (RPLANS), Army Criteria Tracking System (ACTS), and Architectural and Engineering Instructions (AEI) "Design Criteria".

e. **Digital Orthophotography (Requirement may be reduced to a 1' contour interval topographic survey depending on cost)** The A-E shall provide engineering services for the purpose of acquiring color negative aerial mapping photography at a scale suitable to produce 1"-200' scale, color digital orthophoto imagery with a one foot ground resolution of (PROJECT TITLE) Complex cantonment area. The A-E shall also provide surveying services to establish horizontal and vertical photo control points. The A-E shall provide all personnel, plant, equipment, transportation and materials necessary to produce a complete set of color digital orthophotos at a scale of 1":200' of the (PROJECT TITLE) and all of the COARNG licensed/permitted land around it. The A-E will utilize aerial photography, photogrammetry, and GPS surveying to gather data in order to provide the specified products.

(1.) GPS Control: Prior to the acquisition of the aerial photography, the A-E shall select a sufficient number of photo control points and establish horizontal and vertical positions to permit control extension by analytical photogrammetric method to facilitate digital orthophoto imagery mapping at a scale of 1":200' with one foot ground resolution. The primary horizontal control use for the GPS observation shall be Second Order Class II stations or better (1:2,000) Vertical positions shall also be established utilizing GPS methods or by conventional survey techniques using third order specifications. All horizontal control shall be referenced to the Local Plane Coordinate System NAD 83(92) and all vertical control will be referenced to NAVD-88. All control will meet National Geodetic Survey (NGS) standards. All GPS control will be performed using Code Phase Global Positioning System equipment and certified by a Registered Professional Land Surveyor to meet NGS standards. A final report on the survey work will be submitted by the A-E. This will include procedures, point diagrams, "to reach" descriptions and a final coordinate list.

(2.) Aerial Triangulation: The A-E shall use block/bundle adjustment to aerially triangulate the photography in order to both field check the field survey and to supply supplemental control in order to set each stereo model.

(3.) Digital Orthophotos: The A-E shall design and submit a sheet layout for approval before commencing production of the orthophotos. The A-E shall scan the aerial diapositives at 1,200 d.p.i. giving pixel resolution of 1.0'. The final digital orthophotos will have a resolution of 200 d.p.i. at 1"=200', thus maintaining a 1.0' pixel size. The images shall be processed to ensure that when any image is tiled with another neighboring image, the result will be a seamless, edge matched, composite image. The image shall be rectified to move atmospheric and topological distortion as well as bringing the data to a true scale. The digital orthophoto deliveries shall meet NGS standards, be compatible with CO ARNG's CAD/GIS system. All products will conform to National Map Accuracy Standards.

(4.) Deliverables:

- One set of color (9"x9") photographs.
- One B/W index
- five (5) color digital composite orthophotos, 1"=200' scale

- Copy of the aerial camera calibration report.
- Computer printout of the aero triangulation control adjustment.
- Final adjustment of the GPS coordinates and elevations of the field control.
- Sets of color digital orthophotos.

f. **Programmatic Environmental Assessment.** The Real Property Master Plan (RPDP) provides a systematic plan for the development of Army installations in accordance with ongoing and known future missions. It is a vehicle to help rationally expand and develop the Installation's facilities as well as manage its land areas with the most prudent use and conservation of natural and fiscal resources. Because the RPMP is a decision document, it requires environmental consideration in accordance with the National Environmental Policy Act (NEPA) In the case of the (PROJECT TITLE) Complex, an Environmental Assessment (EA) meets this requirement. A programmatic RPMP EA can greatly shorten the data collection required for future NEPA analysis, save money, and reduce delays to mission execution. The information developed in this (EA) shall be sufficient to:

(1.) Identify, evaluate, discuss, and analyze the current and projected direct, indirect, and cumulative impacts of the RPMP and its component plans, the ongoing mission and training activities, pollution controls, and environmental management plans of the training site on the environmental, historic properties, social, and economic resources of the study area.

(2.) Provide the COARNG with a baseline assessment of environmental conditions at the (PROJECT TITLE) Complex.

(3.) Provide the COARNG with a comprehensive, programmatic EA which is a complete, objective appraisal of the positive and negative impacts of the RPMP (including component plans), ongoing mission, any projected mission changes, and current training activities. The EA shall be a working document that is broad enough in scope to address future unknown projects as long as these future projects are not significantly different from the projects covered in the EA.

(4.) Create the basic, comprehensive NEPA document which will serve as the information basis for other training site decisions and to which other project-specific NEPA documents will be tiered.

(5.) Study area. The study area for environmental concerns shall be the (PROJECT TITLE) complex. In addition, the environmental study area includes downstream watersheds (including groundwater) and regional air quality issues. The environmental impact of noise produced by the (PROJECT TITLE) complex on its members and the public within, adjacent to, and surrounding the training site shall also be assessed.

(6.) The social/economic investigation shall identify and analyze the effects and impacts that the (PROJECT TITLE) Complex has on a local, county, and regional basis.

**3. REFERENCE PUBLICATIONS AND SOURCES:**

**a. Army Regulations -**

AR 11-32	Army Long-Range Planning System
AR 200-1	Environmental Protection and Enhancement
AR 200-2	Environmental Effects of Army Actions
AR 200-3	Natural Resources – Land, Forest, and Wildlife Management
AR 200-4	Cultural Resource Management
AR 210-21	Installation Range and Training Areas
AR 385-63	Policies and Procedures for Firing Ammunition for Training, Target Practice and Combat



- AR 405-45 Inventory of Military Real Property
- AR 405-70 Utilization of Real Estate
- AR 415-15 Military Construction, Army, Program Development and Execution

**b. Technical Manuals -**

- TM 5-803-1 Installation Master Planning
- UFC –3-260-01 Airfield and Heliport Planning and Design

**c. Technical Bulletins and Engineer Technical Letters -**

- TB ENG 353 Installation Master Plan Preparation
- TB 5-803-3 Automated Map Data Base Standard for Army Installations

**d. National Guard Guidance –**

- NGR 415-5 (Appendix L) Installation Master Plan Guidelines
- NGP 415-12 Army National Guard Facility Allowances

**4. PROJECT SUBMISSION REQUIREMENTS:**

- a. **Existing Conditions, Scopes, Requirements, and Proposed Site Plans.** Submit five (5) draft sets prior to the charette.
- b. **Final Site Plan.** Submit five sets.
- c. **95% Master Plan submittal.** Submit five (5) sets of MP documentation (not to include EA)
- d. **100% Final submittal** - Submit twenty (20) sets of the final Master Plan report and five (5) copies of digitized data for all elements.

**5. SCHEDULE:**

ITEM	LOCATION	DAYS FROM AWARD OF TASK ORDER (ATO)
Kick Off Meeting	(PROJECT TITLE)	10
Existing Conditions etc./Prelim EA		30
Charette	(PROJECT TITLE)	45
Final Site Plan/Final EA		90
95% Submission		135
100% Submission		165

**Table L-1 Schedule of Key Tasks**

**6. SUBMISSION AND APPROVAL OF WORK:**

a. At time of award of the task order, a progress schedule will be submitted for approval. The schedule will show the various items included in the task order and the order in which the A-E proposes to carry out the work, with dates on which he will start the features of the work and the contemplated dates for completing same. This proposed and actual progress will be updated each month. Significant milestones such as review submittals shall be annotated. Such schedule shall provide for completion of all work within the task order time. The A-E

shall assign sufficient technical, supervisory, and administrative personnel to ensure the execution of the work in accordance with the approved progress schedule.

b. The A-E shall correct the progress schedule at the end of each month and shall deliver one copy (may be electronic) to the Project Manager. In as much as monthly partial payments to the A-E are based to a large extent on the progress schedule, the monthly corrections should be realistically made to the best ability of the A-E.

c. **Review Comments:** For each Review Submittal, the A-E will be furnished by the Project Manager, comments from the various design sections of the District and from other concerned agencies involved in the review process. If the A-E disagrees technically with any comment or comments and does not intend to comply with the comment, he shall clearly outline, with ample justification, the reasons for noncompliance within seven (7) working days after receipt of these comments in order that the comment can be resolved. The disposition of the remaining comments shall be furnished in writing with the next scheduled submittal. The A-E is cautioned in that if he believes the action required by any comment exceeds the requirements of this task order, he should take no action and notify the Project Manager in writing immediately.

d. **Needs List:** Throughout the life of this task order, the A-E shall furnish the Project Manager a monthly "needs" list. This list shall itemize in an orderly fashion data required by the A-E to advance the project in a timely manner. Each list shall include a sequence number, description of action item, and remarks. The list will be maintained on a continuous basis with satisfied action items checked off and new action items added as required.

## **7. COORDINATION:**

a. During the progress of work, close coordination between the A-E, the Contracting Officer, and the COARNG will be required. The Project Manager is the focal point for the day-to-day coordination of the project and the A-E task order. COARNG personnel will furnish planning data and current information as is available. Project criteria will not be changed without prior approval of the Contracting Officer. The Architect-Engineer is responsible for determining existing site conditions and coordinating work with existing conditions. The A-E will maintain a list of sources of information.

b. The A-E shall maintain and safeguard all information provided in connection with this study that is classified or in any way considered sensitive and not available for general distribution. The A-E will receive written clearance from the Contracting Officer prior to release of any sensitive information.

c. A written memorandum of every site visit, conversation and conference, either telephonic or personal is required. The memorandum shall include subject, names of participants, outline of discussion, and recommendations or conclusions. Each memorandum shall be numbered in consecutive order. Three (3) copies of each memorandum will be furnished to the Contracting Officer, and one (1) copy to all parties involved (through the COARNG), within five (5) working days.

d. Upon completion of this task order the A-E will provide the Contracting Officer with all data overlays, drawings, reference data, etc., used in the preparation of this study.

## **8. CONDUCT OF WORK:** In performance of task orders, the A-E shall:

a. **Schedules:** Make every effort to meet project schedule milestones which were established at negotiations and/or at the beginning of design. In this connection, the A-E will bring to the attention of the Project Manager any conflict in criteria, lack of criteria, or any condition that appears to put the project schedule in jeopardy if not resolved.

b. **Architect-Engineer instructions:** The A-E will accept instructions only from the Contracting Officer or his representative.

c. **Architect-Engineer Responsibilities:** The A-E has complete responsibility for the professional quality, technical accuracy, and coordination of all designs, drawings, specifications, and other work or materials produced and furnished by his in-house and consultant's forces. The A-E shall correct or revise any errors or

deficiencies in his work, notwithstanding any review, approval, acceptance, or payment by the Government. The A-E has complete responsibility only for the professional quality and technical accuracy of the work and materials produced by his in-house and consultant’s forces. The A/E’s employees will at all times conduct themselves in a manner compatible with the non-personal services nature of this contractual instrument. The A/E’s workforce will under no circumstances allow themselves to be under the supervision and control of a Government officer or employee.

**Appendix L  
KSA Matrix for Master Planner and GIS Specialist**

**L-1. Master Planner**

The following knowledge, skills, and abilities (KSA) matrix for the master planner position identifies those skills that are needed to perform in five key functional areas required of the master planner. Not all skills are required to perform at the operational level and only the most difficult skills are required in addition to those required at the intermediate level to perform at the advanced level. The following KSA matrix identifies those skills required for each stage of master planner development in the five functional areas. The three stages of master planner development are:

- Operational (O): Is learning the craft of planning – not quite a beginner, but still requiring close supervision. Individual has brought experiences from other organizations, both internal and external to the ARNG.
- Intermediate (I): Is experienced, and capable of performing all but the most complex planning assignments independently with little direct supervision.
- Advanced (A): Is a highly skilled subject matter expert capable of handling planning tasks of the highest level of difficulty. Advanced Planner may be called upon to conduct training at NGB sponsored courses.
- Blank: Indicates that the training course does not directly address the KSA in that row.
- 

**MASTER PLANNER TRAINING AND DEVELOPMENT GUIDE**

O	I	A	Knowledge, Skills & Abilities (KSA)
			<b>Plan Formulation</b>
●			- Planning Process
	●	●	- Set Planning Objectives
●	●		- Define Existing Condition
●	●		- Define Future With and Without Project Conditions
●	●	●	- Problem Identification
	●	●	- Development of Alternatives
●	●	●	- Stationing Plan Analysis
●	●	●	- Trade off Analysis
●	●		- Project Authorization Document, 1390/91 Development
		●	- Technical Integration ( integrating the various technical products into a report and project)
●	●	●	- Real Estate Rules & Requirements
●	●	●	- A&E Contracting

**MASTER PLANNER TRAINING AND DEVELOPMENT GUIDE -- Continued**

O	I	A	Knowledge, Skills & Abilities (KSA)
			<b>Environmental</b>
●	●	●	- Environmental Analysis (EA)
●	●	●	- NEPA Process
	●	●	- Environmental Impact Analysis (EIS)
	●	●	- Finding of No Significant Impact (FONSI)
	●	●	- Record of Decision (ROD)
	●	●	- Endangered Species Act, Section 7 Consultation
	●	●	- Cultural Resource (SHPO, etc.)
●	●	●	- Compliance and Documentation required by State laws.
□			
O	I	A	<b>Knowledge, Skills &amp; Abilities (KSA)</b>
			<b>Technical Training</b>
●	●	●	- GIS Applications
●	●	●	- GPS Applications
●	●		- CAD Applications
□	□	●	- CAD Integrator/PRIDE
	●	●	- Technical Writing
●	●	●	- Data Analysis
□	□	□	
			<b>Resourcing</b>
●		●	- MILCON Authorization Process
●		●	- Federal Budget Process (Buck Stops Here)
	●	●	- Risk Analysis
●		●	- Determining Federal Interest
		●	- Optimization
●	●	●	- Cost Sharing (State / Fed)
		●	- Regional Economic Analysis
		●	- Financial Capability
		●	- Damage Assessment
	●	●	- Social Impact Analysis
●		●	- Project Accomplishments (benefits)
□			
			<b>Communications</b>
	●	●	- Consensus Building
	●	□	- ADA Compliance
	●	●	- Briefing (CFMO, TAG, ARI)
	●	●	- Policy & Procedure Development
●	●		- Coordination with public, resource groups and other agencies, and NGO
□	●	●	- Conduct of public meetings and workshops
□	●	●	- Strategic Communications
□	●	●	- Information Brochures
□	●	●	- News Releases

**L-2. GIS Planner**

The following knowledge, skills, and abilities (KSA) matrix for the GIS planner position identifies those skills that are needed to perform in three key functional areas required of the GIS planner. Not all skills are required to perform at the operational level and only the most difficult skills are required in addition to those required at the intermediate level to perform at the advanced level. The following KSA matrix identifies those skills required for each stage of GIS planner development in the three functional areas. The three stages of GIS planner development are:

- **Operational (O):** Is learning the craft of planning – not quite a beginner, but still requiring close supervision. Individual has brought experiences from other organizations, both internal and external to the Guard.
- **Intermediate (I):** Is experienced, and capable of performing all but the most complex planning assignments independently with little direct supervision.
- **Advanced (A):** Is a highly skilled subject matter expert capable of handling planning tasks of the highest level of difficulty. Advanced Planner may be called upon to instruct at CFMOU and other NGB sponsored events.

**GIS TECH TRAINING AND DEVELOPMENT GUIDE**

O	I	A	Knowledge, Skills & Abilities (KSA)
			<b>Technical Training Basic Applications (Learn Data and how to get it)</b>
			<b>Data Development</b>
●			- Data Acquisition Skills
●			- Data Standards
●	●	●	- Data Editing / Maintenance Skills
	●	●	- Field Data Collection Skills
	●		- CAD Data Integration Skills
□	●	●	- Database Development
□	●	●	- Metadata Development
□	□	□	
			<b>Use Data and Derive Useful Products From It</b>
●	●	●	- Cartography ( Includes: Site Plans / Data Layering / Charts)
●	●	●	- Spatial Data Analysis
●	●	●	- Analyze Metadata
●		□	- CAD Applications
	●	●	- Technical Integration ( integrating the various technical products into a report and project)
	□	□	
			<b>Communication Skills</b>
		●	- Consensus Building
	●	●	- Briefing (CFMO, TAG, ARI, State)
	□	●	- Policy & Procedure Development
●	●		- Coordination with public, resource groups and other agencies, and NGO
□	●		- Information Brochures
	●	●	- Technical Writing
	□	□	
			<b>Organizational Structure</b>
●		□	Chain of Command / Guard 101
●	□	□	CFMO Structure and duties

Some of the NGB sponsored training courses necessary to obtain some of these skills are described in the following appendix.

**Appendix M****Course Descriptions For NGB-Sponsored Training For Master Planners And For GIS Planners****M-1. ARNG Facility Requirements Analysis And Master Planning**

Instructor: Mr. Tom Gerard, Mr. Glen Whittaker, John Page and Mr. Jeff Moushegian

Target audience is newly assigned master planners who have not been to MPAS or RPLANS training and are responsible for maintaining the Tabulation of Existing and Required Facilities (TAB) report and editing facility requirements for their State or 57 major training centers.

Training includes basic principles of master planning, Real Property Development Planning in the ARNG, use of RPLANS and GIS as master planning tools, the facility requirements analysis process, explanation of how ASIP and PRIDE (real property inventory) data affect planning, and use of RPLANS requirements editor.

Students must obtain an Installation RPLANS User ID and Password from their State RPLANS Administrator (see list on GKO under ARI Real Estate document library or contact Maia Abalahin) prior to training. Students should also have an AKO User ID and Password.

**M-2. NG RPDP - NGR 210-20 & NG Pam 210-20 (Draft) How To Do RPDP In The ARNG**

Instructor: Mr. Tom Gerard and Major Max Brewer

Target audience is master planners. Prerequisite is to read and bring the NGR 210-20, State TAB & LRCP (10 projects) Training Objective – Students will be able to understand and execute requirements for and how to develop, maintain and submit a Real Property Development Plan (RPDP) for a State or Territory.

Purpose of this training is to review and explain the requirements for an ARNG State-wide RPDP, as directed by NGR 210-20, Real Property Development Planning in the ARNG. The training will also discuss various methods of collecting and analyzing the duties and the decision-making processes involved in developing the RPDP. Training will present a case study of how to analyze existing facilities in a State to develop a capital investment strategy for that State.

The students will also discuss how the 11-step master planning process applies to developing a State-wide RPDP or a Training Center Master Plan. Each student will write and brief a TAG narrative for his/her State. There will also be instruction on the planning guidance and techniques contained in NG PAM 210-20 (Draft) Bring a disk to save any work prepared during the practical exercise.

**M-3. RPLANS Edits - RPLANS Requirements Editing Workshop**

Instructor: Mr. Glen Whittaker, John Page and Mr. Jeff Moushegian

Target audience is master planners who have been to MP/RPDP Applied Skills training and are responsible for maintaining the Tabulation of Existing and Required Facilities (TAB) report and editing facility requirements for their State or one of the 57 major training centers.

This is hands-on workshop for Installation RPLANS requirements editing. Students will practice using Installation RPLANS reports, references, performing analysis and edits on their own State data (live) RPLANS Administration program refresher training will answer questions on creating users, updating real property inventory data, submitting requirements edits to NGB, and generating ISR extract files – either in class or on an individual basis.

Students should obtain an Installation RPLANS User account with editing capability from their State RPLANS Administrator (see list on GKO under ARI Real Estate document library or contact Maia Abalahin) prior to attending training. Students should also have an AKO User ID and Password.

**M-4. GIS Intro - Introduction And Overview Of GIS**

Instructor: Mr. Malcolm Ponte and Mr Noah Goodman

Target audience for this class is anyone who would like to become familiar with GIS or who will be managing/supervising GIS personnel.

This class will provide students with a broad overview and introduction to Geographic Information Systems (GIS) technology and its application to the management of military installations and facilities. Attendees will become familiar with basic GIS concepts and requirements regarding GIS data, personnel/manpower, software, and, hardware. Students will also be provided with guidelines for GIS program implementation and management.

#### **M-5. GIS Software - GIS Software “Hands-On”**

Instructor: Mr. Malcolm Ponte

This class is applicable to any GIS novice.

This 'hands on' session will introduce students to GIS desktop applications. Through a series of tutorials, students will become familiar and operate ArcGIS software (please note, due to the short time frame, this class can only provide an overview of this extensive software package) Students will examine/explore various geo-spatial datasets, develop queries, symbolize data layers/themes, and produce a map.

#### **M-6. GIS Update - GIS Program Update**

Instructor: Mr. Malcolm Ponte and Mr Noah Goodman

Target audience is open to anyone who is involved with State/Territory GIS programs.

Training will provide attendees with an update of ARNG, Army and OSD GIS issues, guidance and programs.

#### **M-7. GIS Databases - GIS Databases Development**

Instructor: Mr. Luke Slings, IARNG

Target audience for this class includes State/Territory GIS and Real Property staff, or anyone else using GIS to manage ARNG sites.

Provide students with an overview of skills techniques, and resources required to create and use geospatial data for facilities. Through demonstrations and hands on exercises, the course instructor will walk students through the process of creating facility level geospatial data from various sources that complies with the new NGB Quality Assurance Plans (QAP's) and DoD's Real Property Inventory Requirements (RIPR) Sample data will be linked to Real Property Inventory (RPI) data, and some of its common uses will be demonstrated. To receive the greatest benefit from this class, students should be proficient with ArcGIS software.

### **Appendix N**

#### **Sample Position Descriptions**

##### **N-1. Sample Position Description For State Master Planner**

**TITLE OF POSITION:** MASTER PLANNER

**Introduction:** This position is located in the Construction and Facilities Management Office (CFMO), Planning & Programming Branch. The primary purpose of this position is to serve as the Master Planner for ARNG facilities within the State. The incumbent is responsible for technical and administrative development, coordination, and maintenance of the Real Property Development Plan (RPDP), the Long Range Construction Plan (LRCP), Investment Strategy (CIS), and Facilities Work Plan. Also responsible for the preparation of associated planning & programming documentation and facilities requirements database (RPLANS)

**Duties:**

1. Researches, develops, integrates, maintains and reviews a series of documents and databases, in accordance with State, NGB and Army guidelines. These represent the 25 year ARNG Facility Master Plan (RPDP, LRCP, CIS), Military Construction Army National Guard (MCNG), Unspecified Minor (UMI) program, and the documentation and integration of major maintenance and repair projects. Incumbent plans work schedules and sequence of operations on a weekly and/or longer basis to ensure an even flow, reasonable

distribution of work and the meeting of schedules and deadlines. Coordinates work schedules to meet changes in workload based on factors such as; peak loads, availability of manpower, and processing time requirements. Coordinates with other units, directorates, and agencies concerning work accomplishment, priorities, and procedures. (XX%)

2. Responsible for the technical review and editing of MCNG and UMI project documentation and site approval requests. Working with the occupants, designers, and technical staff, coordinates programming charrettes and verifies the appropriate project justification, engineering estimates, economic analyses, and associated documents required to submit projects to higher headquarters and to local planning/programming activities (i.e. Joint Service Reserve Component Facilities Board (JSRCFB) and State Planning Board) Develops and maintains an integrated listing/program depicting all of the State projects for MCNG, UMI, Maintenance and Repair projects, and demolition of buildings in accordance with the State ARNG RPDP. Prepares MCNG program/project justification briefings for use at higher headquarters. Manages those projects from conception through final approval by higher headquarters. Advises and assists tenants in development and initiation of their project requests, ensuring that their projects are also in conformance with the State ARNG RPDP. Prepares the agenda for State Planning Board meetings, coordinates and conducts meetings, and approves the meeting minutes. Gathers and prepares information for the RPDP from other groups as required. Acts as liaison between State agencies and CFMO to ensure that space and facility requirements that would require Master Planning assistance are addressed. Reviews resultant MCNG project engineering design plans and specifications for conformance to the original project. Reviews the MCNG program on a continuing basis for overall technical adequacy and update as required. (XX%)

3. Ensures that the State meets DoD, Army, and State and local standards for master planning. Develops a State ARNG long-range plan to structure and prioritize the number, size, content, and potential mix of State ARNG installations and facilities to support current and projected force structure. Provides for the planning and the development of longer term real property acquisition, development, and construction for the Adjutant General. Assists the branch chief in the short, mid, and long term planning of overall State ARNG facility resources. Provides and conducts coordination with a variety of agencies both internal and external to the State ARNG on issues pertinent to planning for State ARNG installations and facility management. Develops, maintains and manages the CFMO input to the RPDP and LRCP. Working with other planning/programming activities (i.e., State Planning Board and JSRCFB), identifies requirements and initiates appropriate MCNG/UMI projects to satisfy facility shortfalls. Initiates studies and confers with design/utilities personnel and firms to determine status of State utilities systems and land use to ascertain their capabilities to support future development. Generates project listing to support those requirements. Ensures that all MCNG including UMI projects have been coordinated with the historical and environmental personnel as required. Ensure that all plans/decisions developed by other State ARNG staff elements adhere to and take into account RPDP vision and focus. (XX%)

4. Serves as Project Officer for assignments outside of the master planning area such as environmental issues, force protection projects, energy conservation, fire protection, space management, etc. as may be assigned by the supervisor. This requires incumbent to coordinate with activities outside CFMO and intra CFMO activities. After collecting the necessary information, incumbent assembles the response and staffs through proper channels as required. (XX%)

**Knowledge:**

--Broad understanding of planning and land use concepts and procedures; knowledge of architectural design and building construction, including site evaluation, conceptual planning, building design, construction documents and building construction methods and details; knowledge of scientific and engineering principles; and ability to prepare accurate project cost estimates.

--Working knowledge of engineering disciplines sufficient to enable the incumbent to apply a broad range of engineering techniques in the planning, estimating, programming of individual projects, and the development, coordination, evaluation, review and updating of the RPDP, LRCP, and MCARNG, including UMI, construction programs.



- Thorough knowledge of State facility inventory sufficient to complete planning and programming responsibilities and influence decisions toward the most efficient, economic, and safe approach possible.
- Ability to adapt standard practices and to apply innovative techniques in the development of plans and programs for the use and functional layout of facilities.
- Working knowledge of engineering fields such as civil, mechanical, electrical, and architectural to achieve adequate planning for facility development and conceptualizing plans and designs for MCNG/UMI projects.
- An understanding of engineering concepts, principles and techniques normally gained through education and training at an accredited college or university. A four year engineering, architectural or community planning degree from an accredited college or university is required.
- Working knowledge of the missions and requirements of all the ARNG major subordinate commands and directorates within the State.
- Knowledge of electronic databases and how to input and retrieve data through prepared reports.
- Knowledge of National Guard Bureau and State project funding policies and construction criteria.
- Strong oral and written communication skills are essential

**Supervisory Controls:**

Receives general supervision from the Planning & Programming Branch Chief who: (1) outlines broad general objectives; delegates authority to determine the methods of achieving objectives and consults local staff and/or agencies outside the State in resolving complex matters; changes decisions and recommendations only for reasons of policy, public relations, or budgetary considerations; (2) provides advice or assistance on unprecedented matters which necessitate policy changes or involve interpretation for conformance thereto; and (3) reviews completed work for adequacy in meeting the needs of the State by the soundness of recommendations made to this and higher headquarters and by through review of inspection reports from higher headquarters.

**Guidelines:**

The incumbent must keep informed of laws, regulations, policies, procedures and programs concerning planning and project design. The technical references include environmental, land use, OSHA, Uniform Building Codes, State Building Codes, NGR 210-20, NGR 415-5, NG Pam 415-12, NGB Design Guides, Cost Estimating Manuals, National Guard Regulations, applicable Department of Defense and Department of Army Regulations, Technical Manuals, and similar guidance. Follow accepted procedures and policies, and adhere to traditional engineering practices. To facilitate the decision process, incumbent is often required to select and apply engineering references to the matter at hand, and must frequently deal with a variety of problems, which necessitate adapting or reaching a compromise with standard guidelines. Deviates from standard guides after recognizing situations where adaptation will reduce costs, decrease energy consumption and increase maintainability without undue loss in critical functional aspects of the project.

**Complexity:**

The job involves utilizing computer software packages (e.g., CADD, GIS, real property inventory) that integrate graphic and non-graphic databases for the developing and estimating of a wide variety of engineering projects, programs, and plans. These include full involvement in determinations of site (location) for all kinds of structures; renovation of facilities, cost determinations, preparation of fact sheets, justifications regarding cost, reports, decisions papers, briefings; and similar work. Incumbent must consider a wide range of variables such as mission requirements for activities (e.g., individual requirements for units and how they relate to one another), overall management concepts which evolve with changes in management personnel, cost variables, etc. Work requires extensive coordination at many levels, furnishing recommendations for appropriate actions and making oral presentations at meetings and conferences.

**Scope & Effect:**

The purpose of this position is to serve as the primary point of contact for State ARNG Real Property Development Plan for the State. The work accomplished includes analysis of existing conditions, trends, and future demands that affect the efficiency, economy and safety of operations at the State level. The result is a dynamic 25 year RPDP that is a comprehensive guide for future facilities development within the State and the basis to ensure that entire State ARNG staff makes decisions in all mission areas in concert toward the same real property goals. It forecasts future demands and provides decision-making basis to ensure that there is sufficient real property capacity to accommodate existing conditions and future demands. Finally, the plan facilitates real property decision making and ensures that real property development and decisions make best use of limited resources and maximize mission accomplishment of entire State ARNG.

**Personal Contacts:**

Incumbent works closely with Chief, Planning & Programming Branch; Construction and Facilities Management Officer; Directorate of Public Works; Installation Commander; Directorate Plans, Operations and Training Officer; with other key staff offices and departmental personnel in planning the State RPDP, State Budgets and developing department projects. A good working relationship must also be developed and maintained with the various levels of the National Guard Bureau, other agencies of the Department of Defense and many State agencies, private consulting firms, local units of government and the public.

**Purpose of Contacts:**

Purpose of contacts is to coordinate the details of preparation of master plans and planning reports, development of the MCNG program, and details of administration of programs for Unspecified Minor Military Construction projects up to the point of project construction approval by preparation of necessary submissions. Contacts are also made to make recommendations, obtain and provide information, and to resolve problems associated with planning functions. Persons with whom contacts are made frequently have differing views.

**Physical Demands:**

The work is primarily sedentary with periodic visits to work sites which require limited physical effort.

**Work Environment:**

Work is performed in an office setting with visits to various locations within the State, NGB and other National Guard facilities.

**N-2. Sample Position Description For State GIS Manager****TITLE OF POSITION: GIS MANAGER**

This position is the Geographic Information System (GIS) Section Manager. The incumbent is directed by the Branch Chief for Planning, and Programming work center for the Construction and Facilities Management Office for the \*\* Army National Guard (\*\*ARNG). The work center is currently comprised of \*\* full-time State employees, with the potential (in accordance with National Guard Bureau manning recommendations) for \*\* full-time employees at full-strength. The main function of the section is to collect, administer, analyze, and process geographical data in support of the overall mission of the directorate, to include production of decision-support tools for use by the \*\* Army National Guard as it formulates strategy, and for inclusion in national databases. This position has responsibility for conducting the work of the GIS section, providing input to the Branch Manager on working schedules, interacting with other professionals across directorate, State, and Federal bureau lines of communication, and overseeing the work of a GIS Specialist. Even with these responsibilities, the position is considered non-supervisory in nature. The incumbent in this position is also the deputy branch chief, and in the absence of the branch chief will act on his/her behalf. 4-5 days per month of in State overnight travel is anticipated. Given the technical nature of the position, attendance at various seminars, conferences, and training sessions out-of-state will also be required, and will on average amount to 20 days of travel per year.

## XX% DATA ADMINISTRATION

The position is responsible for ensuring that the \*\* ARNG is in compliance with all applicable State and Federal standards, to include the Spatial Data Standards for Facilities, Infrastructure and Environment (SDSFIE) and applicable National Guard Bureau standards. Monitors updates from the Computer-Aided Drafting and Design (CADD)/GIS Technology Center and incorporates standards changes into our data administration efforts. Manages all geodatabase additions and modifications using modern spatial database engine tools, such as ArcSDE. Works with the real property specialist to ensure that communication between GIS databases and real property databases is maintained. Uses GPS data gathered as part of the overall collection effort to verify the accuracy of all unit of measure data maintained in the real property inventory. Develops and maintains the directory structure for all GIS data, and prepares and enforces policy on its use. Monitors requirements of the National Guard Bureau for GIS data, and provides responses to data calls in a timely manner.

## XX% DATA COLLECTION MANAGEMENT

Establishes the data collection schedule at all \*\* ARNG sites. Interfaces with appropriate personnel for needed support such as utilities locates, personnel availability, etc. Coordinates the collection schedule with other section members and the branch chief. Monitors the progress of the collection effort and report to the branch chief on progress. Develop and maintain all applicable databases to be able to pull data from the Project Resource Infrastructure Development and Evaluation (PRIDE) and other State databases of record, for use in building graphical decision support tools to be published on the directorate Intranet site. Along with other section personnel or hired contractors, conducts Global Positioning System (GPS) field surveys according to the collection plan, as required by the completion of new construction projects, or as new environmental initiatives dictate. Develops and maintains contacts with outside agencies to allow for data acquisition (aerial photographs, section maps, topographical surveys, e.g.) as needed for project completion.

## XX% APPLICATION MANAGEMENT

Manages the development of GIS applications to allow for the smooth interface between GIS data sources and production applications of the directorate, so that required decision-support tools are available to decision-makers using real time data. Works with the Information Management Officer to ensure that the data architecture used by the GIS section meshes with the directorate's data structure and the overall data structure of the \*\* ARNG enterprise. Analyzes data management requirements to determine the software applications and upgrades necessary to create required products. Recommends purchases of hardware and software products as required.

## XX% TRAINING

Provides in-house training for directorate and department personnel on the use of GIS tools. Provides expertise at the National Guard Bureau level, and provides instruction support for other States as required. Keeps abreast of changes in the GIS fields and attends seminars and other training conferences required to keep skill set current.

XX% Other duties as assigned.

**N-3. Sample Position Description For State GIS Specialist****TITLE OF POSITION:** GIS SPECIALIST**Position:** GIS Specialist

This position is the Geographic Information System (GIS) Specialist. The incumbent is directed by the Work Center Chief for the Planning, and Programming work center of the Construction and Facilities Management Office for the \*\* Army National Guard. The branch is currently comprised of \*\* full-time State employees, with the potential (in accordance with National Guard Bureau manning recommendations) for \*\* full-time employees at full-strength. The main function of the section is collect, administer, analyze, and process geographic data in support of the overall mission of the directorate, to include production of decision-support tools for use by the \*\* ARNG as it formulates strategy, and for inclusion in national databases. This position has responsibility for conducting the work of the GIS section as outlined by the GIS Section Manager. 4-5 days per month of in state overnight travel is anticipated. Given the technical nature of the position, attendance at various seminars,

conferences, and training sessions out-of-state will also be required, and will on average amount to 20 days of travel per year.

XX% DATA COLLECTION AND MANAGEMENT

Individually or as part of a team performs site surveys for \*\* ARNG facilities using Global Positioning System (GPS) hardware and software. Processes collected data for addition into GIS facility model database using GIS software. Manages and maintains metadata for all models based on GPS and other survey data. Re-visits \*\* ARNG installations to update GIS data as the features at those installations change over time. Assures data currency and accuracy for use in management activities. Typical activities include Real Property Development Plans (RPDP), Intranet web distribution through ESRI's Internet Map Server (ArcIMS) and development of hazardous material spill response plans. Acquires data (aerial photographs, section maps, topographical surveys, etc) from outside sources for use in GIS projects. Remains familiar with the current version of Environmental Systems Research Institute (ESRI) ArcInfo Desktop GIS software. Utilizes the current Computer-Aided Drafting and Design (CADD)/GIS Technology Center Spatial Data Standard for Facilities Infrastructure and Environment (SDSFIE) and the Federal Geographic Data Committee (FGDC) Content Standard for Digital GeoSpatial Metadata (CSDGM) Manages GIS data for development of building models, allowing for their display in web-based and desktop GIS applications

XX% MAPPING AND ANALYSIS

Provides GIS support to the directorate as required. Creates and maintains useful GIS map products for \*\* ARNG installations and facilities. Manages process for timely distribution of hard-copy and digital map products. Adheres to policies of the directorate and the National Guard Bureau for document formatting and digital filing. Performs GIS analysis projects as required by the directorate. Uses existing specialized software tools for GIS analysis. Develops specialized tools and procedures to solve subject specific GIS problems. Typical analysis subject areas include installation master planning, military range operation and environmental management. Satisfies GIS mapping and analysis requirements of other directorates as the need arises.

XX% APPLICATION DEVELOPMENT

Develops and manages GIS applications to allow for the smooth interface between GIS data sources and production applications of the directorate, so that required decision-support tools are available to decision-makers using real time data. Works with the Information Management Officer to ensure that the data architecture used by the GIS section meshes with the directorate's data structure. Generates easy-to-use, useful, and appealing GIS desktop and Web applications. Analyzes data management requirements to recommend the software applications and upgrades necessary to create required products.

XX% TRAINING

Provides in-house training for directorate and department personnel on the use of GIS tools. Provides expertise at the National Guard Bureau level, and provides instruction support for other States as required. Keeps abreast of changes in the GIS fields and attends seminars and other training conferences required to keep skill set current.

XX% Other duties as assigned.

## Appendix O

### Crosswalk of AR 210-20 Master Plan Required Components to NGR 210-20 Requirements

#### O-1. General

AR 210-20, Master Planning for Army Installations, requires six components for an active Army installations real property master plan (RPMP). NGR 210-20, Real Property Development Planning for the Army National Guard, requires a real property development plan (RPDP) for each State, Territory and the District of Columbia. Both regulations use similar, but different nomenclature to describe the roughly similar components of these planning documents. Figure O-1 provides a cross walk between the requirements of the different regulations. Use this figure for ISR Services rating for master planning services. The paragraphs following the table briefly defines each of the components required by AR 210-20 for comparison with ARNG requirements explained in this pamphlet.

ITEM	ARMY	ARMY NATIONAL GUARD
Regulation	AR 210-20	NGR 210-20
Plan Name	Real property master plan	Real property development plan
Required for	Army installations	Army National Guard States, Territories, DC
Vision statement	Real Property Master Plan Digest (RPMPD)	TAG Narrative
Long term	Long-Range Component (LRC)	LRCP
Design guide	Installation Design Guide (IDG)	Not applicable for the State or Territory
Prioritized project list and funding	Capital Investment Strategy (CIS)	CIS as an attachment to the LRCP
FYDP projects	Short-Range Component (SRC)	MILCON projects in FYDP plus OMNG project list (work plan) for major maintenance and restoration type projects
Inputs	Contributory Information and Plans	Inputs to the RPDP as attachments

**Figure O-1. Crosswalk of Components**

## O-2. Definitions

a. Real Property Master Plan Digest (RPMPD) from AR 210-20. The RPMPD provides the vision, goals and objectives for the management and development of the installation. It is also an extract of the most important master planning concepts, details and facts of the installation RPDP. It describes the thrust of the installation's real property development, its constraints and opportunities, and the path to achieving the long -range goals for the community. It is not just a summary of the RPDP. It provides analyses and can serve as a decision support document. The RPMPD states the Garrison Commander's vision, goals and objectives for the development and operation of the installation to meet the future needs of the Army. It gives his/her guidance on how current missions will be supported and indicates the potential capabilities of the installations for additional or expansion of existing missions. The TAG Narrative performs roughly the same function so these two are considered equivalent for ISR Services rating purposes.

b. Long-Range Component (LRC). The LRC will establish the environmental baseline, basic framework, and specific options for developing and managing real property on the installation. It will describe the holistic planning process that is used to formulate the installation development strategy and vision. This includes addressing an integrated strategy for infrastructure assurance to support mission requirements and sustainable development. It also provides the basic real property data upon which other business function plans can be built.

c. Installation Design Guide (IDG). The IDG is prepared and published separately, but is a component of an RPMP. Its purpose is to promote visual order, enhance the natural and manmade environments through consistent architectural themes and standards, and improve the functional aspects of the garrison.

d. Capital Investment Strategy (CIS). The CIS is the garrison commander's overall strategy for using and investing in real property to support installation missions and Department of the Army objectives. It describes permanent comprehensive/holistic solutions, as well as short-term actions necessary to correct deficiencies, and meet real property requirements in a method that assures infrastructure reliability and contributes to sustainable development. At a minimum, the CIS will reflect the correction of shortfalls identified in the ISR and the implementation of the facility development requirements identified by the FFS, but should cover all facility developmental projects associated with an RPMP.

e. Short-Range Component (SRC). The SRC will integrate real property master planning into the Army's budgetary and operational planning processes throughout the current POM period. It charts recommended real property master planning activities into the Army's resource management process.

**Glossary**

**Section I  
Abbreviations**

**ACSIM**

The Assistant Chief of Staff for Installation Management

**ACTS**

Army Criteria Tracking System

**ACUB**

Army Compatible Use Buffer

**A/E**

Architect/Engineer

**AICUZ**

Air Installation Compatibility Use Zone

**AMSCO**

Army Management Structure Code

**AR**

Army Regulation

**ARNG**

Army National Guard

**ARSIC**

Army Range Sustainment Integration Council

**ASIP**

Army Stationing and Installation Plan

**AT/FP**

Anti-Terrorism/Force Protection

**BES**

Budget Estimate Submission

**BOS**

Base Operations Support

**CAD**

Computer Aided Design

**CERCLA**

Comprehensive Environmental Response, Compensation, and Liabilities Act

**CFMO**

Construction and Facilities Management Officer

**CHP**

Controlled Humidity Program

**CIS**

Capital Investment Strategy

**CMMS**

Computerized Maintenance Management System

**CNGB**

Chief, National Guard Bureau

**CRRC**

Construction Requirements Review Committee

**CTC**

Collective Training System

**DA**

Department of the Army

**DD**

Department of Defense

**DERA**

Defense Environmental Restoration Account

**DG**

Design Guide

**DoD**

Department of Defense

**DOIM**

Director of Information Management

**EA**

Environmental Assessment

**EBS**

Environmental Baseline Survey

**ECOP**

Environmental Condition of Property

**EIS**

Environmental Impact Statement

**EO**

Executive Order

**ESA**

Environmental Site Assessment

**FCG**

Facility Category Group

**FEAC**

Facilities Engineering Advisory Council

**FFS**

Focused Facility Strategy

**FIRO**

Force Integration Resource Officer

**FTE**

Full Time Equivalent

**FYDP**

Future Years Defense Program

**GIS**

Geographical Information System

**GKO**

Guard Knowledge Online

**ICUZ**

Installation Compatibility Use Zone

**IDG**

Installation Design Guide

**IRP**

Infrastructure Requirements Plan

**ISR**

Installation Status Report

**ITAM**

Integrated Training Area Management

**JFHQ**

Joint Force Headquarters

**JLUS**

Joint Land Use Study

**JSRCFB**

Joint Service Reserve Component Facilities Board

**LEED**

Leadership in Energy and Environmental Design

**LRCP**

Long-Range Construction Plan

**LUC**

Land Use Controls

**MCNG**

Military Construction National Guard



**MDEP**

Management Decision Evaluation Package

**MOU**

Memorandum of Understanding

**MTC**

Maneuver Training Center

**NEPA**

National Environmental Policy Act

**NGB**

National Guard Bureau

**NGO**

Non-governmental Organization

**NGR**

National Guard Regulation

**ODEP**

Office of the Director of Environmental Programs

**OEA**

Office of Economic Adjustment

**OMNG**

Operations and Maintenance National Guard

**PARC**

Principal Assistant Responsible for Contracting

**PBAC**

Program Budget Advisory Committee

**PBG**

Program Budget Guidance

**POM**

Program Objective Memorandum

**PRIDE**

Planning Resources for Infrastructure Development and Evaluation

**RCMP**

Range Complex Management Plan

**RCRA**

Resource Conservation and Recovery Act

**RDP**

Range and Training Land Program Development Plan

**REC**

Record of Environmental Consideration

**REPI**

Readiness and Environmental Protection Initiative

**RPAO**

Real Property Accountable Officer

**RPI**

Real Property Inventory

**RPPB**

Real Property Planning Board

**RPDP**

Real Property Development Plan

**RPLANS**

Real Property Planning and Analysis System

**RPMPAC**

Real Property Master Planning Advisory Committee

**RTLTP**

Range and Training Land Program

**RTLS**

Range and Training Land Strategy

**SKA**

Skills Knowledge Ability

**SOW**

Statement of Work

**SPMS**

Support Personnel Manning System

**SRM**

Sustainment, Restoration, and Modernization

**SRP**

Sustainable Range Program

**STEP**

Status Tool for Environmental Programs

**TAB**

Tabulation of Existing and Required Facilities

**TAG**

The Adjutant General

**TCMP**

Training Center Master Plan

**UFC**

Unified Facilities Criteria

**USPFO**

United States Property and Fiscal Officer

**Section II**

**Terms**

**Adequate facilities**

Those facilities that meet space and condition criteria (to include location criteria) required to support installation mission requirements.

**Army Stationing and Installation Plan (ASIP)**

The official document that gives the authorized, projected force structure at installation level for planning and programming real properties required to support personnel and activities (Army and other services).

**Buildable areas**

Areas on the site that have no site development limitations.

**Construction**

The erection, installation, or assembly of a new facility; the relocation of a facility; the complete replacement of an existing facility; or the addition, expansion, extension, alteration, or conversion (to a new type use) of an existing facility. This includes installed building equipment and related site preparation, excavation, filling and landscaping or other land improvements. It also includes increases in components of facilities for functional reasons when a facility is not being repaired and the components are not required to meet current standards, and it includes the extension of utilities to areas not previously served. Construction is an activity that may be a part of either the restoration or modernization program.

**Environmental data groupings**

Groupings of environmental data layers that share similar characteristics or concerns. These groupings would be displayed in a scientific data management system or on an overlay map.

**Environmental stewardship programs**

Those environmental, natural, and cultural resource programs that have been identified for inclusion in the real property environmental overlays.

**Expansion capability**

The potential of an installation to accept the stationing of additional units, activities, or functions.

**Facility**

A separate and individual building, structure, utility system, or other real property improvement identifiable with a category code from DA Pam 415-28. Supporting elements for structures, such as sidewalks, fire hydrants, gasoline and diesel fuel dispensing systems, flammable materials buildings, roads, fencing, and hard stand, are all separate facilities.

**Facility Category Group (FCG)**

An aggregation of one or more real property assets that have like functional purpose and the same unit of measure. Each FCG is defined by the make up of the category codes it contains. (See DA Pam 415-28 for composition of FCGs)

**Facilities Center**

A customized version of a commercial off the shelf computer integrated facilities management system. It serves as the ARNG's information management system used by NGB and the CFMOs to manage real property assets from cradle to grave and to track and maintain all facilities related data, including project data.

**Installation**

An aggregation of contiguous or near contiguous, common mission-supporting real property holdings under the jurisdiction of the State, the District of Columbia, Territory, or commonwealth controlled by and at which an ARNG unit or activity is permanently assigned. For the purpose of Installation Status Report reporting and the calculation of programming inventory, each State shall be considered a separate installation.

**Installation commander**

Commanding officer of an installation. For the ARNG, the Adjutant General is the installation commander. The commander of a military table of organization and equipment or table of distribution and allowance unit or activity who does not otherwise have responsibility for land, buildings, and fixed improvements is not an installation commander.

**Joint Land Use Study (JLUS)**

The JLUS program is sponsored by the Office of Economic Adjustment (OEA), Office of the Secretary of Defense (OSD) Both the installation and the local communities benefit. Mutual goals can be achieved and not at the expense of any of the parties involved. Participation in this program is voluntary but encouraged.

**Long-range requirement**

Any structure, multi-use structure, complex, range area, land area, or program identified in the RPDP as necessary to meet the assigned mission or support requirements of the installation.

**Military Construction, National Guard (MCNG)**

The program by which National Guard facilities are planned, programmed, designed, budgeted, constructed, and disposed of during peacetime and under mobilization conditions. The program also includes the acquisition of real estate and other supporting activities. It is also an appropriation.

**Program Objective Memorandum (POM)**

The primary means for the Army leadership to allocate resources to support Army roles and missions. It translates planning decisions, Office, Secretary of Defense programming guidance, and Congressional guidance into a detailed allocation of forces, manpower, and funds. It presents the Army's proposal for a balanced allocation of its resources among centrally managed programs for manpower; operations; research, development, and acquisition; and stationing and construction within specified constraints. The Secretary of Defense reviews the POM and modifies it to reflect program decisions. The approved program provides the basis for Army budget estimates.

**Range Complex Management Plan (RCMP)**

The RCMP is comprised of installation and community range and training land requirements arranged in priority sequence by fiscal year.

**Real Property Allowance Criteria**

Authorized facilities or space planning criteria for a given unit, activity, or function. ACTS is the primary repository of space planning criteria for the Active Army. NG Pam 415-12 is the primary source of space planning criteria for the ARNG.

**Real Property Exchange**

A program whereby existing ARNG operated property is exchanged for private sector property so that the ARNG receives property worth the total replacement cost of the existing property or fair market value, whichever is greater. The purpose of the program is to acquire more advantageous property thus reducing military construction requirements.

**Real Property Inventory (RPI)**

A detailed inventory of each reportable item of real property. It serves as the basic source of information for the category, status, cost, area, capacity, condition, use, construction material, and capital improvements for each item of real property as defined in AR 415-28. The RPI is maintained at installation level and in the aggregate at HQDA.

**Real Property Development Plan (RPDP)**

The constantly updated end product of the State's real property master planning process. It identifies the Adjutant General's goals and objectives for development and operation of the State and its supported installations and shall identify the major work to be done to real property to ensure continued mission performance. It becomes the basis to support acquisition, management, accountability, and disposal of real property and serves as a framework for allocating available SRM resources and to support requested military construction projects.

**Recapitalization Rate (Recap)**

The number of years required to regenerate a physical plant—either through replacement or major renovation—at a given level of investment. The formula depicted below is used to calculate the facilities recapitalization rate for each year of the FYDP. The results are then compared against service-life benchmarks. The basic formula is:  $\text{Recapitalization Rate} = \text{Recapitalization PRV} \div \text{Recapitalization Investment}$ ; where the numerator of the formula is the plant replacement value of facilities that DoD intends to recapitalize ( $\text{PRV}_R$ ). It represents assets that have a continuing mission (i.e., facilities that will not be disposed of and so will need to be replaced or renovated at some point). The numerator includes the PRV of facilities supported by O&M, MILCON, and Defense working capital fund (DWCF). The numerator excludes any assets recapitalized by resources outside the investment pool in the denominator. The denominator of the formula is the recapitalization investment programmed for the physical plant reflected in the numerator.

**Tabulation of Existing and Required Facilities (TAB)**

A numeric report of facility allowances, requirements, excesses, and shortfalls. The TAB may be produced at the level of either individual facility category code or FCG. (See DA Pam 415-28 for a description of FCGs) Where available, RPLANS, as modified to reflect specific user/mission needs, may be used to produce the TAB and will be recognized by HQDA as part of the justification of construction programs.

**Tenant unit, agency, or activity**

A unit, agency, or activity of one command that occupies facilities on an installation of another command and receives support services from that installation.

**Section III****Special abbreviations and terms**

This section contains no entries.